

# TOSHIBA

## EXPERIENCE THE FUTURE



TOSHIBA AIR CONDITIONING > CATALOGUE VRF 2023

 **Better Air Solutions**

QUALITY RELIABILITY ENVIRONMENT PROFITABILITY SIMPLICITY

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## EXPERIENCE THE FUTURE

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QUALITY RELIABILITY ENVIRONMENT PROFITABILITY SIMPLICITY QU

- Every field has its own requirements and specifics directly related to its business and the space it occupies, be it residential, shops, offices or hotels.

Toshiba reinvigorates spaces, creates comfortable environments and encourages productivity.

Whatever your field, Toshiba is here to increase your business' performance.

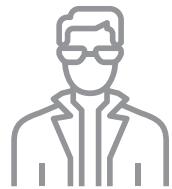
# TOSHIBA BUSINESS SOLUTIONS

**MiNi-SMMS, MiNi SMMS-e, SMMS-e, SMMS-u,  
SHRM-e, SHRM Advance**

## > CREATING BENEFITS AROUND COMFORT



Investors



Consultants



Installers



Our planet

Support decarbonization of buildings. Make true energy savings. Boost your investments.

Secure your specifications. Ensure premium comfort. Ease buildings labelling.

Differentiate yourself from competitors, choose the expert of inspired R32 technologies since 2014.

Always consider the impact. Go further than just products, create safe low GWP solutions to friendly interact with the planet.



# ECODESIGN EUROPEAN DIRECTIVE

## > ECODESIGN

In the European Union, the Ecodesign Directive encourages HVAC manufacturers to design products taking into consideration their environmental impact throughout entire lifecycle. It establishes a framework for the setting of mandatory energy efficiency requirements for all energy-related products (ERPs).

For more information visit: [www.ecodesign.toshiba-airconditioning.eu](http://www.ecodesign.toshiba-airconditioning.eu)



Lot 21: Heat pumps above 12 kW including residential, light commercial systems and VRF >>> DI, SDI, Big DI, MiNi-SMMS, MiNi SMMS-e, SMMS-e, SHRM-e, SMMS-u, SHRM Advance.

## > DESIGNED FOR THE FUTURE

Toshiba Air Conditioning is committed to designing products and solutions with increasingly lower environmental impacts. This subsequently reducing indirect CO<sub>2</sub> emissions generated by electricity consumption. Toshiba Air Conditioning's long-standing commitment to sustainable development is ahead of

schedule for the European climate and energy package requirements for 2030.

All Toshiba Air Conditioning products sold today in Europe are fully compliant with the latest Ecodesign directives.

## > NEW ENERGY EFFICIENCY METRIC SEASONAL EFFICIENCY ( $\eta_{S,C}$ AND $\eta_{S,H}$ )

The Seasonal Coefficient of Performance, is a new European parameter to rate heat pumps in terms of energy efficiency. It is an update to the Coefficient of Performance, which previously recorded the power consumed to power produced ratio in heating and cooling modes for one operating point.

Unlike the EER/COP, the  $\eta_{S,C}$  /  $\eta_{S,H}$  take into account performances during cooler seasons because it considers temperature variations by including numerous realistic measurement points. When combined, this results in a more accurate energy classification.

### $\eta_{S,C}/\eta_{S,H}$ compared to EER/COP

TEMPERATURE (C°)	CAPACITY (KW)	AUXILIARY MODES (KWH)	HOURS
EER COP One temperature requirement $\eta_{S,C}$ $\eta_{S,H}$ Numerous rating temperatures (range of average temperatures)	EER COP Full load $\eta_{S,C}$ $\eta_{S,H}$ Partial load + Full load	EER COP Auxiliary power modes are not considered $\eta_{S,C}$ $\eta_{S,H}$ Incl. consumption auxiliary modes: - Standby mode - Off mode - Thermostat off, etc.	EER COP N/A $\eta_{S,C}$ $\eta_{S,H}$ Number of hours at each air temperature (in hours)

### SEASONAL COEFFICIENT OF PERFORMANCE CALCULATION

This is the ratio between annual heating/cooling demand and annual energy input over an entire heating/cooling season.

$$\eta_{S,H} = \frac{\text{ANNUAL HEATING DEMAND}}{\text{ANNUAL ENERGY INPUT}}$$

$$\eta_{S,C} = \frac{\text{ANNUAL COOLING DEMAND}}{\text{ANNUAL ENERGY INPUT}}$$

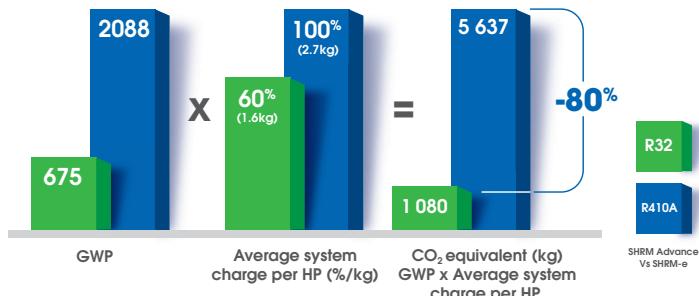
$$\eta_S = 100 \times \frac{\text{SEER or SCOP}}{2,5} - 3\%$$

# INSPIRED VRF TECHNOLOGIES SHRM ADVANCE & MiNi-SMMS



## > INSPIRED TECHNOLOGIES TO SUPPORT BUILDING DECARBONIZATION

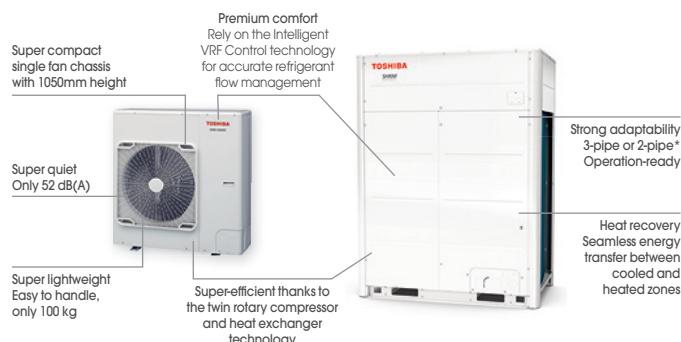
R32 low GWP, combined with SHRM Advance 40% reduction of refrigerant charge, allow to reduce the total equivalent CO<sub>2</sub> by 80% of the system, in comparison with R410A legacy model.



## > FORWARD-THINKING SOLUTION



The new SHRM Advance is the leading solution to provide heating, cooling and hot water for commercial applications with a limited impact on the environment.



\* 8, 10 & 12HP only.

## > MAXIMIZED EFFICIENCY

Leading efficiency is part of Toshiba DNA. SHRM Advance is no exception with strong energy savings for indirect carbon reduction. Embedded technologies such as liquid injection, twin rotary compressor, large heat exchanger, unique sub cool plate heat exchanger and intelligent VRF Control contribute to reach unparalleled seasonal efficiencies.

	SHRM ADVANCE	MiNi-SMMS
<b>HEATING</b>	<b>SCOP</b> UP TO <b>4.6</b>	UP TO <b>5.2</b>
	<b>Ethash</b> UP TO <b>183%</b>	UP TO <b>206%</b>
<b>COOLING</b>	<b>SEER</b> UP TO <b>8.9</b>	UP TO <b>10</b>
	<b>Ethasc</b> UP TO <b>353%</b>	UP TO <b>397%</b>

## > TOSHIBA TWIN ROTARY COMPRESSOR WITH NEW LIQUID INJECTION TECHNOLOGY

Centre piece of the system, the Toshiba super efficient Twin rotary compressor has been engineered to perfectly fit R32 constraints.



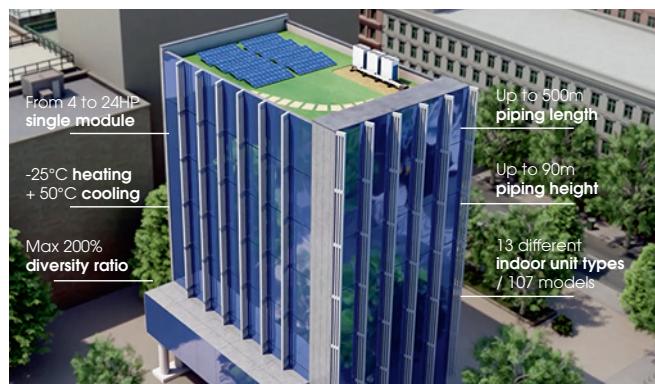
- Large capacity
- Wide operating range
- Less refrigerant needed

- Low noise
- DLC treatment
- Liquid injection technology

## > EXTENDED PROJECT COVERAGE

Advanced connectivity

At Toshiba Air Conditioning, low carbon footprint products go hand in hand with high specification standards. SHRM Advance and MiNi SMMS have been designed to enhance system flexibility and maximize project coverage.



# PROJECT REFERENCES

## > OFFICE BUILDING

### Project

#### LANDMARK

180,000 sqm multi-storey,  
grade A office

Manchester, UK

### Constraints

- 3-pipe solution
- Multi-storey building
- Rooftop CDU integration



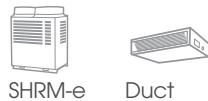
### Installer

#### CASTLE BUILDING

Services Ltd

Hebburn, UK

### TOSHIBA SOLUTION



Images rights: AIR-COND / Photographer Simon Fischbacher: www.simonfischbacher.at



## > SHOP

### Project

#### PADO

Shopping center

Parndorf, Austria

### Constraints

- Hot summer & cold winter
- Wide surface
- Multi shop management

### Installer

#### CAVERION

Wildon, Austria

### TOSHIBA SOLUTION



## > HOTEL

### Project

#### GENNADI GRAND RESORT HOTEL

Luxury five-star hotel guest-room  
air-conditioning

Rhodes Island, Greece

### Constraints

- Grade A high efficiency building
- Low-height architecture
- Sea-side location

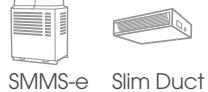


### Installer

#### RODOS AIR

Rhodes Island, Greece

### TOSHIBA SOLUTION



# CHOOSE YOUR ADAPTED SYSTEM SOLUTION MAPPING BY APPLICATIONS

## > OUTDOOR UNITS

	Residential	Light commercial	Business
Reversible cooling or heating		  	 
MiNi SMMS Sideblow 1 fan & MiNi-SMMS	 <p>Individual housing mainly</p> <p>Up to 250 m<sup>2</sup> per system Max. 13 IDUs per system</p>	<p>Up to 250 m<sup>2</sup> per system and max. 13 IDUs per system</p> <p> 1 phase electrical power supply only</p>	<p>R32 inside MiNi-SMMS</p>
Mini SMMS-e 1Ph & 3Ph	 <p>Individual housing mainly</p>	<p>Up to 400 m<sup>2</sup> per system Max. 16 IDUs per system</p>	
Stand alone SMMS-e, SMMS-e & SMMS-u	 <p>Collective housing mainly</p> <p> 3-phase electrical power supply only</p>	<p>Up to 6,000 m<sup>2</sup> per system Max. 128 IDUs per system</p>	
SHRM-e, SHRM Advance	 <p>Collective housing mainly</p> <p> 3-phase electrical power supply only</p>	<p>Up to 2,500 m<sup>2</sup> per system. Max. 69 IDUs per system</p> <p>Hot water production capability</p> <p>R32 inside SHRM Advance</p>	

## > INDOOR UNITS

						
Cassette		<input type="radio"/> (4-way standard or compact)		<input type="radio"/> (All types)	<input type="radio"/> (4-way standard or compact for lobby)	<input type="radio"/> (All types)
Duct	<input type="radio"/> (Standard duct)	<input type="radio"/> (Standard or high static pressure)		<input type="radio"/> (Slim or standard)	<input type="radio"/> (Slim for rooms & standard for lobby)	<input type="radio"/>
High-wall	<input type="radio"/>	<input type="radio"/>		<input type="radio"/>	<input type="radio"/> (For rooms - low sound version)	<input type="radio"/>
Ceiling		<input type="radio"/>				<input type="radio"/>
Console	<input type="radio"/> (Bi-flow version)			<input type="radio"/>	<input type="radio"/> (For lobby)	<input type="radio"/>

The data provided on this page is for informational purposes only and not for the purpose of providing legal or other professional advice.

## CHOOSE YOUR ADAPTED SYSTEM SOLUTION

## OUTDOOR UNIT MAPPING FOR EUROPE

		>NEW 					>NEW 
	R410A	R32	R410A	R410A	R410A	R410A	R32
	MCY-MHP0_4HT-E/TR	MCY-MUG0_1HSW-E/TR	MCY-MHP0_4HS(8)-E/TR	MMY-SAP_6HT8P-E/TR	MMY-MUP_1HT8P-E/TR	MMY-MAP_6FT8P-E/TR	MMY-SUG_1MT8(J)P-E
		Heat pump		Heat pump	Heat pump	Heat pump	Heat pump
	Single module	Single module	Single module	Single module	Single module	Single module	Single module
4	●▼ (1Ph)	●▼ (1Ph)	●▼ (1Ph/3Ph)				
5	●▼ (1Ph)	●▼ (1Ph)	●▼ (1Ph/3Ph)				
6		●▼ (1Ph)	●▼ (1Ph/3Ph)				
8			●▼ (3Ph)	●▼	●▼	●▼	●▼
10			●▼ (3Ph)	●▼	●▼	●▼	●▼
12				●▼	●▼	●▼	●▼
14				●▼	●▼	●▼	●▼
16				●▼	●▼	●▼	●▼
18				●▼	●▼	●▼	●▼
20				●▼	●▼	●▼	●▼
22				●▼		●	●▼
24				●▼	●	●	●▼
26					●	●	
28					●	●	
30					●	●	
32					●	●	
34					●	●	
36					●	●	
38					●	●	
40					●	●	
42					●	●	
44					●	●	
46					●	●	
48					●	●	
50					●	●	
52					●	●	
54					●	●	
56					●		
58					●		
60					●		
---					●		
120					●		
Fresh air solution	Fresh air duct				●		●
	Air to air heat exchanger + DX coil		(4, 5 & 6HP only)			●	●
	Standard DX Kit	●		●	●	●	●
	0/10v DX kit				●		
Hot water	Hot water module		(8 & 10HP only)		●	●	● (mid temperature only)
Small capacity indoor units	0.3HP indoor unit	●			●	●	●
	0.6HP indoor unit	●	●	●	●	●	●
Accessories	Leak detection	●	●	●	●	●	●
	Shut-off valve	●	●	●		●	●

● :Heat pump - ▼:Eurovent certified



&gt; CDU



CAPACITY OPERATION



4HP &gt; 6HP -20°C &gt; +46°C

High efficiency for true energy savings, low GWP refrigerant to help support decarbonization, compact chassis for simplified product integration: the perfect investment to answer all small to medium building heating and cooling requirements.

## Features

## PRELIMINARY DATA

Outdoor unit		MCY-MUG0401HSW-E	MCY-MUG0501HSW-E	MCY-MUG0601HSW-E
Capacity range	HP	4	5	6
Cooling capacity	kW	12.1	14.0	15.5
Heating capacity rated/max	kW	12.1/14.2	14.0/16.0	15.5/17
Power supply	V-ph-Hz	1phase 50Hz 220/230/240V	1phase 50Hz 220/230/240V	1phase 50Hz 220/230/240V
Efficiency	EER rated	W/W	4.14	3.75
Efficiency	EER 50% load	W/W	6.86	6.22
Efficiency	SEER	η/std	396.2%/9.98	365.4%/9.21
Efficiency	COP rated	W/W	5.08	4.75
Efficiency	COP 50% load	W/W	7.04	6.47
Efficiency	COP -7°C 100% load	W/W	4.51	4.21
Efficiency	SCOP	η/std	205.4%/5.21	194.2%/4.93
Electrical characteristics	Running current	A	C	14.2 - 13.1
Electrical characteristics	Power input	kW	C	2.92
Electrical characteristics	Running current	A	H	11.9 - 10.9
Electrical characteristics	Power input	kW	H	2.38
Dimensions (h x w x d)	mm			1050x1010x370
Weight	kg			100
Compressor	Type		Hermetic twin rotary compressor	Hermetic twin rotary compressor
Compressor	Motor output	kW		3.75
Fan unit	Type		Propeller fan (Quantity 1)	
Fan unit	Motor output	W		100
Fan unit	Air volume	m³/h	4560	4740
External static pressure available	Pa		20	20
Refrigerant charge R32	kg		2.4	2.4
Refrigerant charge R32	CO <sub>2</sub> Teq		1.62	1.62
Power supply wiring	MCA	A	23.5	26.5
Power supply wiring	MOCP	A	32.0	32.0
Pipe connection	Gas line type - Diameter		Flare - 5/8"	Flare - 5/8"
Pipe connection	Liquid line type - Diameter		Flare - 3/8"	Flare - 3/8"
Connectivity	Max. number of connected indoor units		8	10
Connectivity	Diversity ratio	Min/Max	80/130%	80/130%
Sound pressure level	Cooling	dB(A)	52	53
Sound power level	Heating	dB(A)	54	55
Sound power level	Cooling	dB(A)	69	70
Sound power level	Heating	dB(A)	71	72
Operating temperature range	Cooling	CDB	-5 / 46	-5 / 46
Operating temperature range	Heating	CWB	-20 / 15.5	-20 / 15.5

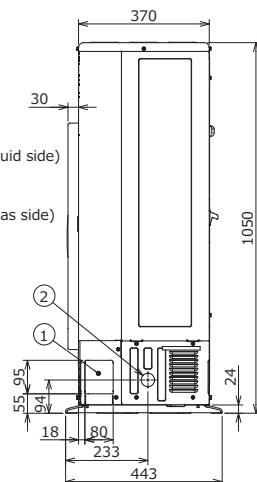
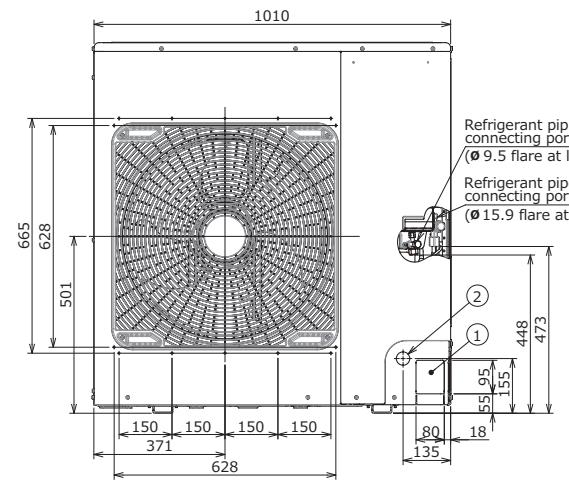
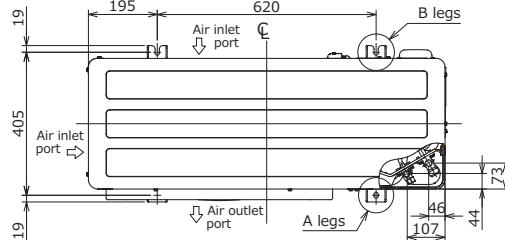
C= Cooling mode

H= Heating mode

## Drawings

Unit: mm

### All models

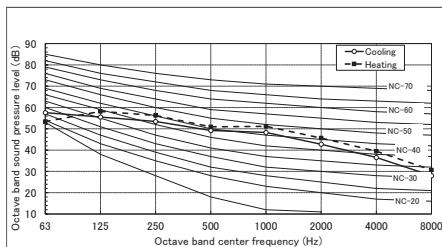


**Piping rules**

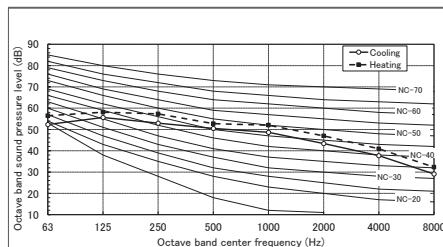
			Allowable value	
			With PMV kit	Without PMV kit
Piping length	Total extension of pipe (Liquid pipe, real length)		250m	300m
	Farthest piping length	Equivalent length	130m	150m
		Real length	100m	120m
	Max equivalent length of main piping		70m	80m
	Max equivalent length of farthest piping form 1st branching		30m	40m
	Max. real length of indoor unit connecting piping		15m	15m
Difference in height	Real length between PMV kit and indoor unit	Between 2m and 10m	-	-
	Height between indoor and outdoor units	Upper outdoor unit	50m	50m
		Lower outdoor unit	40m	40m
	Height between indoor units	Upper outdoor unit	15m	15m

**Sound pressure levels**

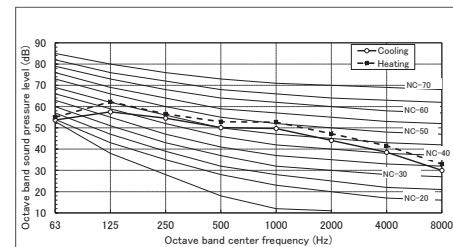
MCY-MUG0401HSW-E



MCY-MUG0501HSW-E



MCY-MUG0601HSW-E

**Night mode sound pressure levels**

Sound reduction and approximation capacity (reference)

Outdoor unit (base unit)	Low noise mode	During low-noise mode dB(A)		Capacity*	
		Cooling	Heating	Cooling	Heating
All MiNi-SMMS models 0401, 0501 & 0601	Mode 1	50	50	approx. 90 %	approx. 90 %
	Mode 2	47	47	approx. 75 %	approx. 75 %
	Mode 3	44	44	approx. 60 %	approx. 60 %

\*Relative to maximum capacity

**Accessories**

		Name	Model name	Capacity	Appearance	Remarks
Branching joints and headers	Y-shape branching joint	RBM-BY55E	Under 6.4hp			
	4-branching header	RBM-HY1043E	Under 14.2hp			
	8-branching header	RBM-HY1083E	Under 14.2hp			
PM kits	PMV Kits	RBPM-PMV0361U-E	For 0.3 to 1.3hp IDUs			
		RBPM-PMV0901U-E	For 17 to 3hp IDUs			
Shut-off Valve (for 2-pipe applications)	Single output	RBM-SV1121HUPE	P < 4HP		206x385x282	1 output - From 1 to 6 IDU per output
		RBM-SV1801HUPE	4HP ≤ P		206x385x282	1 output - From 1 to 10 IDU per output
Battery kit		TCB-BT1UPE				Battery kit for flow selector and shut-off valve
Leak Detector		TCB-LD1UPE				
Optional PCB of outdoor unit	Power peak-cut control board	TCB-PCDM4E				To limit the capacity of the VRF outdoor unit at 85%, 75%, 70% or 60% load or to stop it. Dry contact
	External master ON/OFF, night mode and priority selection control board	TCB-PCM04E				Dry contact
	Output control board	TCB-PCIN4E				Operation output: The operation indicator is ON while any indoor unit in the system is operating. Error output: The error indicator is ON when an error occurs on even one of the indoor or outdoor units in the system. Dry contact



CAPACITY

OPERATION



4HP &gt; 5HP

-20°C &gt; +46°C

Compact, efficient, adaptable, energy saver, the side blow VRF is the solution to cool and heat small/medium size buildings.

## Features

Outdoor unit	HP	MCY-	MHP0406HT-E	MHP0506HT-E1
Capacity range	HP		4	5
Cooling capacity	kW		12.1	14.0
Heating capacity	kW		12.5	16.0
Power supply	V-ph-Hz		1 phase 50Hz 220/230/240V	1 phase 50Hz 220/230/240V
EER rated	W/W		3.73	3.23
Efficiency	EER 50% load	W/W	6.10	4.93
	SEER	η/std	320.20%/8.08	307.8%/7.77
COP rated	W/W		4.42	4.0
Efficiency	COP 50% load	W/W	5.25	5.48
	COP -7°C 100% load	W/W	3.88	3.47
SCOP	η/std		150.2%/3.83	152.2%/3.88
Running current	A	C	14.4/13.8/13.2	20.8/19.9/19
Electrical characteristics	Power input	kW	3.24	4.33
	Running current	A	13.4/12.8/12.3	19.1/18.3/17.5
	Power input	kW	2.83	4.0
Dimensions (h x w x d)	mm		910x990x390	910x990x390
Weight	kg		100	100
Compressor	Type		Hermetic twin rotary compressor	Hermetic twin rotary compressor
	Motor output	kW	3.75	3.75
Fan unit	Type		Propeller fan (Quantity 1)	Propeller fan (Quantity 1)
	Motor output	W	100	100
	Air volume	m³/h	4020	4260
External static pressure available	Pa			
R410A refrigerant charge	kg		3.3	3.3
	CO <sub>2</sub> Teq		6.9	6.9
Power supply wiring	MCA	A	26.5	28.0
	MOCP	A	32.0	32.0
Pipe connection	Gas line type - Diameter		Flare - 5/8"	Flare - 5/8"
	Liquid line type - Diameter		Flare - 3/8"	Flare - 3/8"
Connectivity	Max. number of connected indoor units		8	10
	Diversity ratio	Min/Max		80/130%
Sound pressure level	Cooling	dB(A)	C	54.0
	Heating	dB(A)	H	57.0
Sound power level	Cooling	dB(A)	C	73.0
	Heating	dB(A)	H	73.0
Operation temperature range	Cooling	CDB	C	-5/+46
	Heating	CWB	H	-20/+15

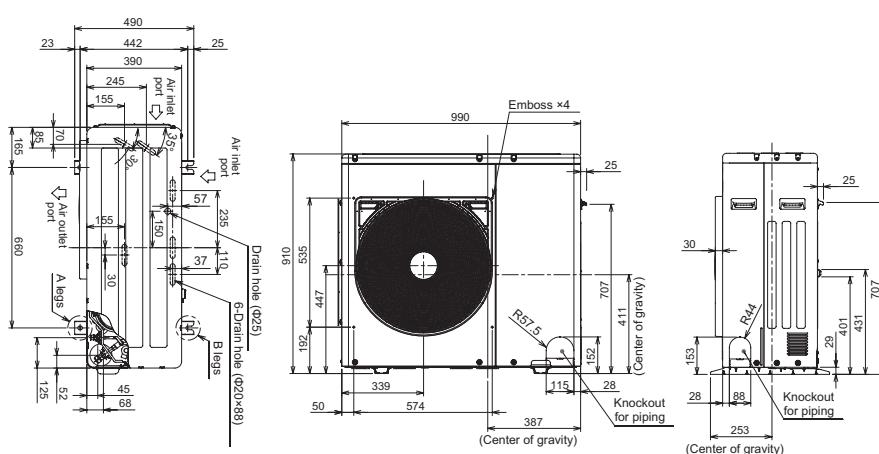
Connected indoor unit : MMU-UP\_1HP-E

C = Cooling mode

H = Heating mode

## Drawings

MCY-MHP0406HT-E  
MCY-MHP0506HT-E1



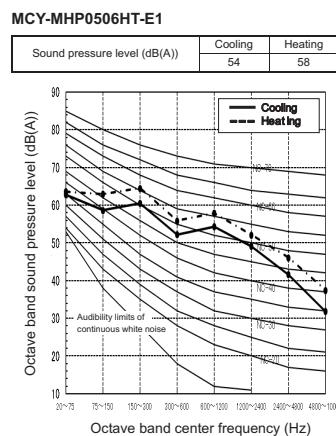
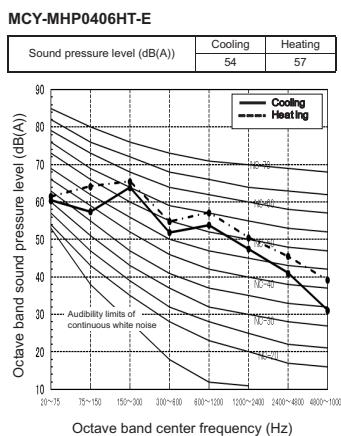
Unit: mm

**Piping rules**

			Allowable value		
			With PMV kit	Without PMV kit	Piping section
Piping length	Total extension of pipe (Liquid pipe, real length)		75m	90m	L1 + L2 + L3 + a + b + c + d + e + f
	Farthest piping length	Equivalent	50m	60m	
	Max equivalent length of main piping	Real	40m	50m	L1 + L3 + f
	Max equivalent length of farthest piping from 1st branching		25m	30m	L1
	Max. real length of indoor unit connecting piping		15m	20m	L3 + f
	Real length between PMV kit and indoor unit		10m	10m	a, b, c, d, e, f
Difference in height	Height between indoor and outdoor units	Upper outdoor unit	15m	15m	
		Lower outdoor unit	15m	15m	
	Height between indoor unit and PMV kit	Upper outdoor unit	10m	-	
	Height between indoor units		10m	10m	

**Sound pressure levels**

Unit: dB(A)

**Night mode sound pressure levels**

Sound reduction and capacity approximation (Reference)

Type	Night operation sound reduction dB (A)			Capacity	
	Cooling	Heating	Cooling		
Single fan	0406	50	50	Approx. 95%	Approx. 80%
	0506	50	50	Approx. 85%	Approx. 75%

**Accessories**

	Name	Model name	Capacity	Appearance	Remarks
Branching joints and headers	Y-shape branching joint	RBM-BY55E	Under 6.4hp		
	4-branching header	RBM-HY1043E	Under 14.2hp		
	8-branching header	RBM-HY1083E	Under 14.2hp		
PM kits	PMV Kits	RBM-PMV0361U-E	For 0.6 to 1.3hp IDUs		
		RBM-PMV0901U-E	For 1.7 to 3hp IDUs		
Optional PCB of outdoor unit	Power peak-cut control board	TCB-PCDM4E			Limit capacity of the VRF outdoor unit at 85%, 75%, 70% or 60% load or stop it. Dry contact
	External master ON/OFF, night mode and priority selection control board	TCB-PCM04E			Dry contact
	Output control board	TCB-PCIN4E			Operation output: The operation indicator is on while any indoor unit in the system is operating. Error output: The error indicator is on when an error is occurred one of the indoor or outdoor units in the system. Dry contact

# MCYMHPS HS

## Mini SMMS-e 1PH



CAPACITY OPERATION



4HP &gt; 6HP -20°C &gt; +46°C

Incorporating all of Toshiba's VRF experience and knowledge into a system that measures no more than 1.2 m high, results in a perfect solution for all small to medium building heating and cooling requirements.

### Features

Outdoor unit	HP	MCY-	MHP0404HS-E	MHP0504HS-E	MHP0604HS-E
Capacity range	HP		4	5	6
Cooling capacity	kW		12.1	14.0	15.5
Heating capacity	kW		12.5	16.0	18.0
Power supply	V-ph-Hz		1phase 50Hz 220/230/240V	1phase 50Hz 220/230/240V	1phase 50Hz 220/230/240V
Efficiency	EER rated	W/W	4.28	4.00	3.61
	EER 50% load	W/W	6.93	6.86	6.78
	SEER	η/std	373.8%/9.42	366.2%/9.23	384.2%/9.68
Efficiency	COP rated	W/W	4.83	4.27	4.18
	COP 50% load	W/W	6.63	6.20	6.16
	COP -7°C 100% load	W/W	4.29	3.80	3.72
	SCOP	η/std	163.8%/4.17	166.6%/4.24	171.8%/4.37
Electrical characteristics	Running current	A	C	13.5/13.0/12.4	16.6/15.9/15.2
	Power input	kW	C	2.83	3.50
	Running current	A	H	12.5/12.0/11.5	17.8/17.0/16.3
	Power input	kW	H	2.59	3.75
Dimensions (h x w x d)	mm			1235x990x390	
Weight	kg		127	127	127
Compressor	Type		Hermetic twin rotary compressor	Hermetic twin rotary compressor	Hermetic twin rotary compressor
	Motor output	kW		3.75	3.75
Fan unit	Type		Propeller fan (Quantity 2)	Propeller fan (Quantity 2)	Propeller fan (Quantity 2)
	Motor output	W	100+100	100+100	100+100
	Air volume	m³/h	5660	5820	6050
External static pressure available	Pa		30	30	30
R410A refrigerant charge	kg		6.4	6.4	6.4
	CO <sub>2</sub> Teq		13.363	13.363	13.363
Power supply wiring	MCA	A	23.5	26.5	28.0
	MOPC	A	32.0	32.0	32.0
Pipe connection	Gas line type - Diameter		Flare - 5/8"	Flare - 5/8"	Flare - 3/4"
	Liquid line type - Diameter		Flare - 3/8"	Flare - 3/8"	Flare - 3/8"
Connectivity	Max. number of connected indoor units		8	10	13
	Diversity ratio	Min/Max		80/130%	
Sound pressure level	Cooling	dB(A)	C	49	51
	Heating	dB(A)	H	52	54
Sound power level	Cooling	dB(A)	C	66	68
	Heating	dB(A)	H	69	71
Operation temperature range	Cooling	CDB	C	-5 to 46	-5 to 46
	Heating	CWB	H	-20 to 15	-20 to 15

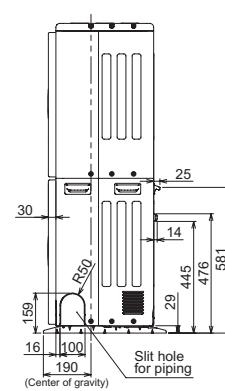
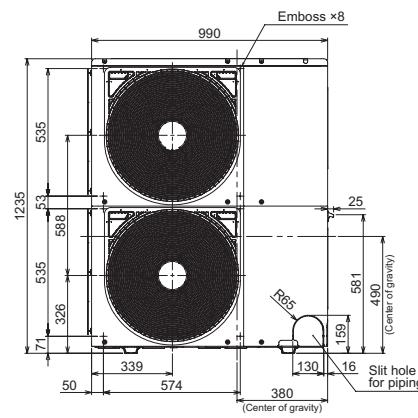
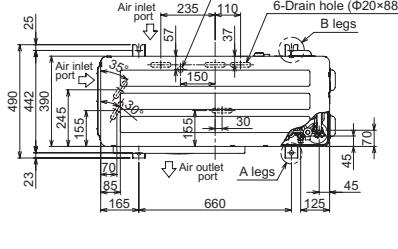
Connected indoor unit : MMU-UP\_1HP-E

C = Cooling mode

H = Heating mode

### Drawings

#### All models



## MiNi SMMS-e 1PH

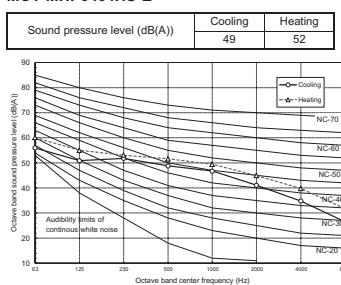
## Piping rules

			Allowable value		Piping section
			With PMV kit	Without PMV kit	
Piping length	Total extension of pipe (Liquid pipe, real length)		150m	180m	$L1 + L2 + L3 + a + b + c + d + e + f$
	Farthest piping length	Equivalent length	80m	125m	$L1 + L3 + f$
	Max equivalent length of main piping		65m	100m	
	Max equivalent length of farthest piping form 1st branching		50m	65m	$L1$
	Max. real length of indoor unit connecting piping		15m	35m	$L3 + f$
	Real length between PMV kit and indoor unit		15m	15m	a, b, c, d, e, f
Difference in height	Height between indoor and outdoor units	Upper outdoor unit	30m	30m	
		Lower outdoor unit	20m	20m	
	Height between indoor units		15m	15m	
	Height between indoor unit and PMV kit		15m	-	

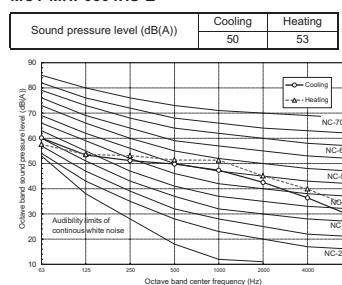
## Sound pressure levels

Unit: dB(A)

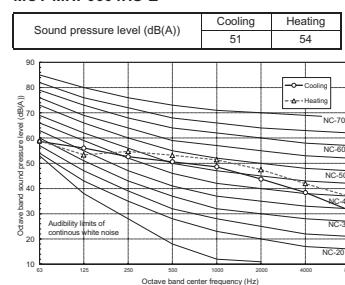
MCY-MHP0404HS-E



MCY-MHP0504HS-E



MCY-MHP0604HS-E



## Night mode sound pressure levels

Sound reduction and capacity approximation (Reference)

Outdoor unit (base unit)	During low-noise mode dB(A)		Capacity*	
	Cooling	Heating	Cooling	Heating
Model 0404*	46	48	approx. 90 %	approx. 95 %
Model 0504*	46	48	approx. 80 %	approx. 80 %
Model 0604*	47	49	approx. 80 %	approx. 75 %

\*Relative to maximum capacity

## Accessories

	Name	Model name	Capacity	Appearance	Remarks
Branching joints and headers	Y-shape branching joint	RBM-BY55E	Under 6.4hp		
	4-branching header	RBM-HY1043E	Under 14.2hp		
	8-branching header	RBM-HY1083E	Under 14.2hp		
PM kits	PMV Kits	RBM-PMV0361U-E	For 0.6 to 1.3hp IDUs		
		RBM-PMV0901U-E	For 17 to 3hp IDUs		
Optional PCB of outdoor unit	Power peak-cut control board	TCB-PCDM4E			Limit capacity of the VRF outdoor unit at 85%, 75%, 70% or 60% load or stop it. Dry contact
	External master ON/OFF, night mode and priority selection control board	TCB-PCM04E			Dry contact
	Output control board	TCB-PCIN4E			Operation output: The operation indicator is on while any indoor unit in the system is operating. Error output: The error indicator is on when an error is occurred on even one of the indoor or outdoor units in the system. Dry contact

# MCYMHPS8

## Mini SMMS-e 3PH



CAPACITY

OPERATION



4HP &gt; 10HP

-20°C &gt; +46°C

Up to 10HP capacity using compact side blow chassis, the MiNi SMMS-e 3PH is particularly adapted to projects downtown.

### Features

Outdoor unit	HP	MCY-	MHP0404HS8-E	MHP0504HS8-E	MHP0604HS8-E	MHP0806HS8-E	MHP1006HS8-E
Capacity range	HP		4	5	6	8	10
Cooling capacity	kW		12.1	14.0	15.5	22.4	28.0
Heating capacity (rated/max)	kW		12.5	16.0	18.0	22.4/25	28/31.5
Power supply	V-ph-Hz		3-phase 50Hz 380/400/415V				
Efficiency	EER rated	W/W	4.29	4.03	3.65	3.36	3.00
Efficiency	EER 50% load	W/W	6.93	6.48	5.91	5.69	5.19
	SEER	rj/std	375.8%/9.47	368.6%/9.29	386.6%/9.74	320.6%/8.09	293%/7.40
Efficiency	COP rated	W/W	4.86	4.30	4.22	4.31	4.00
	COP 50% load	W/W	6.70	6.25	6.25	6.05	5.62
	COP -7°C 100% load	W/W	4.32	3.80	3.75	3.51	3.27
	SCOP	rj/std	164.6%/4.19	167.0%/4.25	172.2%/4.38	177%/4.50	179.8%/4.57
Electrical characteristics	Running current	A	C	4.8/4.5/4.4	5.7/5.4/5.2	7.0/6.7/6.4	11.1/10.6/10.2
	Power input	kW	H	2.82	3.47	4.25	6.67
	Running current	A	C	4.4/4.2/4.0	6.1/5.8/5.6	7.0/6.6/6.4	8.7/8.2/7.9
	Power input	kW	H	2.57	3.72	4.27	5.20
Dimensions (h x w x d)	mm			1235x990x390			1740x990x390
Weight	kg			125	125	147	147
Compressor	Type		Hermetic twin rotary compressor				
	Motor output	kW		3.75	3.75	3.75	6.60
Fan unit	Type		Propeller fan (Quantity 2)				
	Motor output	W		100+100	100+100	100+100	100+100
	Air volume	m³/h		5660	5820	6050	8460
External static pressure available	Pa		30	30	30	20	20
R410A refrigerant charge	kg		6.4	6.4	6.4	4.4	4.4
	CO <sub>2</sub> Teq		13.4	13.4	13.4	9.2	9.2
Power supply wiring	MCA	A		12.5	12.5	17.0	20.0
	MOCP	A		16.0	16.0	20.0	25.0
Pipe connection	Gas line type - Diameter		Flare - 5/8"	Flare - 5/8"	Flare - 3/4"	Flare - 3/4"	Flare - 7/8"
	Liquid line type - Diameter		Flare - 3/8"				
Connectivity	Max. number of connected indoor units		8	10	13	12	16
	Diversity ratio	Min/Max			80/130%		
Sound pressure level	Cooling	dB(A)	C	49	50	51	58
	Heating	dB(A)	H	52	53	54	59
Sound power level	Cooling	dB(A)	C	66	68	68	75
	Heating	dB(A)	H	67	69	70	77
Operation temperature range	Cooling	CDB	C	-5 to 46	-5 to 46	-5 to 46	-5 to 46
	Heating	CWB	H	-20 to 15	-20 to 15	-20 to 15	-20 to 15

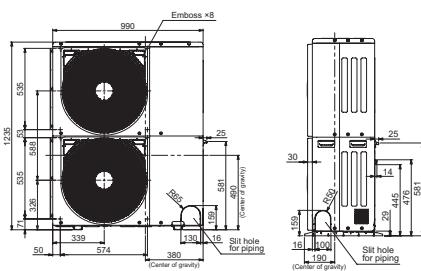
Connected indoor unit : MMU-UP\_1HP-E

C = Cooling mode

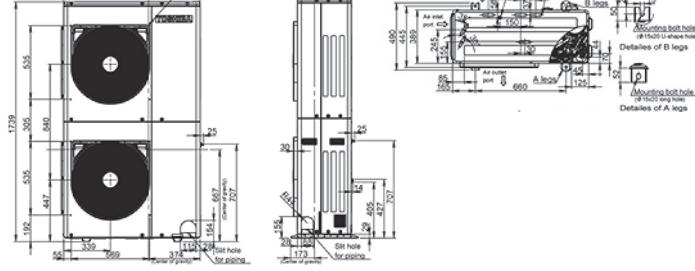
H = Heating mode

### Drawings

MCY-MHP\_4HS8-E



MCY-MHP\_6HS8-E



Unit: mm

## Piping rules

		Allowable value				Piping section	
		With PMV kit		Without PMV kit			
Piping length	Total extension of pipe (Liquid pipe, real length)		150m	250m	180m	300m	L1 + L2 + L3 + a + b + c + d + e + f
	Farthest piping length	Equivalent length	80m	130m	125m	150m	L1 + L3 + f
	Max equivalent length of main piping	Real length	65m	100m	100m	120m	L1 + L3 + f
	Max equivalent length of farthest piping from 1st branching		50m	70m	65m	80m	L1
	Max. real length of indoor unit connecting piping		15m	30m	35m	40m	L3 + f
	Real length between PMV kit and indoor unit		15m	15m	-	-	a, b, c, d, e, f
Difference in height	Height between indoor and outdoor units	Upper outdoor unit	30m	30m	-	-	
		Lower outdoor unit	20m	30m	20m	30m	
	Height between indoor units		15m	15m	-	-	
	Height between indoor unit and PMV kit		15m	15m	-	-	

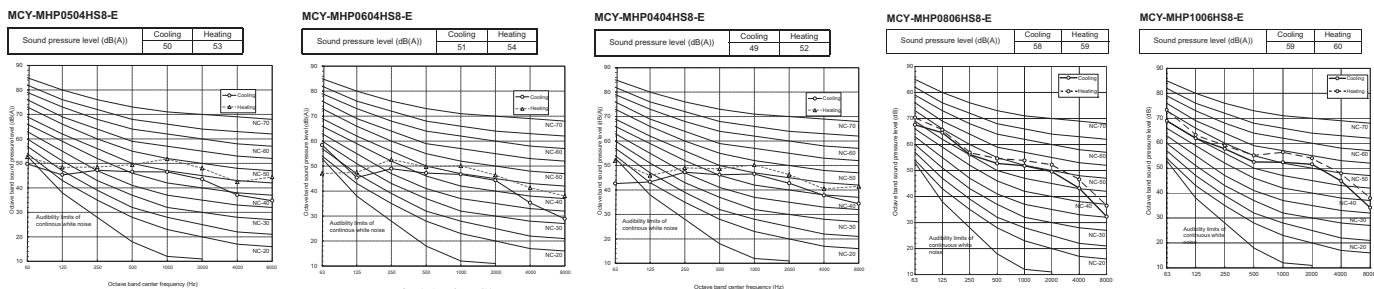
(\*1): (D) is outdoor unit furthest from the 1st branch and (J) is the indoor unit furthest from the 1st branch.  
 (\*2): If the height difference (H1) between indoor and outdoor unit exceeds 3 m, set 65 m or less.  
 (\*3): If the max. combined outdoor unit capacity is 54HP or more, then max. equivalent length is 70 m or less (real length is 50 m or less).  
 (\*4): If the height difference (H2) between indoor units exceeds 3 m, set 50 m or less.

(\*5): If the height difference (H2) between indoor units exceeds 3 m, set 30 m or less.  
 (\*6): Total charging refrigerant is 140kg or less.  
 (\*7): Extension up till 90m is possible with conditions below  
   - Outdoor Temperature Cooling : 10 - 46 (DB)  
   - Heating : -5 - 15.5 (WB)  
   - Equivalent length of farthest piping from 1st branching Li < 50m  
   - Real length of main piping LT < 100m

- Height difference between indoor units H2<3M  
 - Total capacity of combined indoor units : 90% - 105%  
 - Single CDU, and up to 20HP  
 - Minimum capacity of connectable indoor : unit 4HP or Larger

## Sound pressure levels

Unit: dB(A)



## Night mode sound pressure levels

Sound reduction and capacity approximation (Reference)

Outdoor unit (base unit)	During low-noise mode dB(A)		Capacity*	
	Cooling	Heating	Cooling	Heating
Model 0404*	46	48	approx. 90%	approx. 95%
Model 0504*	46	48	approx. 80%	approx. 80%
Model 0604*	47	49	approx. 80%	approx. 75%
Model 0806*	50	50	approx. 80%	approx. 75%
Model 1006*	50	50	approx. 65%	approx. 60%

\*Relative to maximum capacity

## Accessories

	Name	Model name	Capacity	Appearance	Remarks
Branching joints and headers	Y-shape branching joint	RBM-BY55E	under 6.4hp		
		RBM-BY105E	between 6.4 and 20.2hp		
	4-branching header	RBM-HY1043E	under 14.2hp		
PM kits	PMV Kits	RBM-PMV0361U-E	for 0.6 to 1.3hp IDUs		
		RBM-PMV0901U-E	for 17 to 3hp IDUs		
	Power peak-cut control board	TCB-PCDM4E			"Limit capacity of the VRV outdoor unit at 85%, 75%, 70% or 60% load or stop it. Dry contact"
Optional PCB of outdoor unit	External master ON/OFF, night mode and priority selection control board	TCB-PCM04E			Dry contact
	Output control board	TCB-PCIN4E			"Operation output: The operation indicator is on while any indoor unit in the system is operating. Error output: The error indicator is on when an error is occurred on even one of the indoor or outdoor units in the system. Dry contact"



# MMY-SAP\_HT8P

## **SMMS-e STAND ALONE**



## CAPACITY

## OPERATION

Keep all benefits of Toshiba SMMS-e with 50% less precharge refrigerant: new intelligent and innovative features that maximise end user comfort and system efficiencies.



**8HP > 10HP**

-25°C > 46°C

## Features

Outdoor unit	HP	MMY-	SAP0806HT8P-E	SAP1006HT8P-E
Capacity range	HP		8	10
Cooling capacity <sup>1</sup>	kW		22.4	28.0
Heating capacity <sup>2</sup>	kW		25.0	31.5
Power supply	V-ph-Hz		380/415-3-50	380/415-3-50
Efficiency	EER rated	W/W	4.04	3.54
	EER 50% load	W/W	6.4	6.06
	SEER	η/std	249.8%/6.32	244.2%/6.18
Efficiency	COP rated	W/W	4.42	4.15
	COP 50% load	W/W	6.31	5.85
	COP -7°C 100% load	W/W	3.58	3.32
	SCOP	η/std	148.6%/3.79	149.4%/3.81
Electrical characteristic	Running current	A	C	8.8
	Power input	kW	C	5.54
	Running current	A	H	9.0
	Power input	kW	H	5.66
Dimensions (h x w x d)	mm		1830x990x780	1830x990x780
Weight	kg		227	
Compressor	Type		Hermetic Twin Rotary	
	Motor output	kW	2.1x2	3.1x2
Fan unit	Type		Propeller fan	
	Motor output	W	1	1
	Air volume	m <sup>3</sup> /h	9700	
External static pressure available	Pa		60	60
R410A refrigerant charge	kg		5.7	5.7
	CO <sub>2</sub> Teq		11.90	11.90
Power supply wiring	MCA	A	20.5	21.5
	MCOP	A	25.0	25.0
Pipe connection	Gas line type - Diameter		Brazed - 3/4"	Brazed - 7/8"
	Liquid line type - Diameter		Flare - 1/2"	Flare - 1/2"
Connectivity	Max. number of connected indoor units		18	22
	Diversity ratio	Min/Max		50/135%
Sound pressure level	Cooling	dB(A)	C	55
	Heating	dB(A)	H	56
Sound power level	Cooling	dB(A)	C	74
	Heating	dB(A)	H	74
Operation temperature range	Cooling	CDB	C	-10/46
	Heating	CWB	H	-25/15.5

Connected indoor unit : MMU-UP 1HP-E

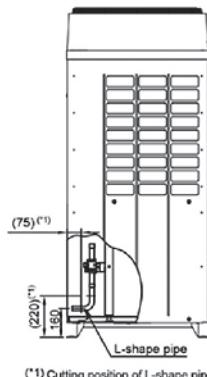
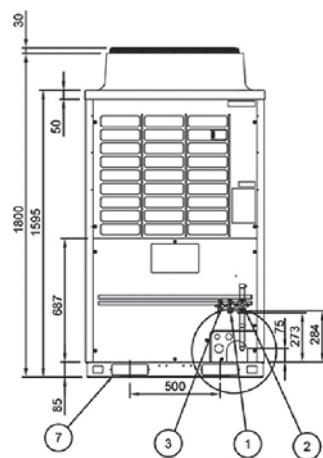
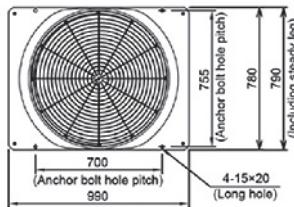
C = Cooling mode

H = Heating mode

Unit: mm

## Drawings

### All models



#### (\*) Cutting position of L-shape pipe

## SMMS-e STAND ALONE

## Piping rules

		Allowable value	Piping section
Piping length	Total extension of pipe (Liquid pipe, real length)	300m	LA + LB + La + Lb + Lc + L1 + L2 + L3 + L4 + L5 + L6 + L7 + a + b + c + d + e + f + g + h + i + j
	Farthest piping length	Equivalent length Real length	235m 190m
	Equivalent length of farthest piping from 1st branching	90m	L3 + L4 + L5 + L6 + j
	Max. equivalent length of main piping	Equivalent length Real length	120m 100m
	Max. real length of indoor unit connecting piping	30m	a, b, c, d, e, f, g, h, i, j
Difference in height	Max. equivalent length between branches	50m	L2, L3, L4, L5, L6, L7
	Height between indoor and outdoor units	Upper outdoor unit Lower outdoor unit	70m 40m
	Height between indoor units	40m	

(\*1) : (D) is outdoor unit farthest from the 1st branch and (I) is the indoor unit farthest from the 1st branch.

(\*2) : If the height difference (H1) between indoor and outdoor unit exceeds 3 m, set 65 m or less.

(\*4) : If the height difference (H2) between indoor units exceeds 3 m, set 50 m or less.

(\*5) : If the height difference (H2) between indoor units exceeds 3 m, set 30 m or less.

(\*7) : Extension up till 90m is possible with conditions below

- Outdoor temperature cooling : 10 - 46 (DB)

- Heating : -5 - 15.5 (WB)

- Equivalent length of farthest piping from 1st branching Li &lt; 50 m

- Real length of main piping L1 &lt; 100 m

- Height difference between indoor units H2&lt;3M

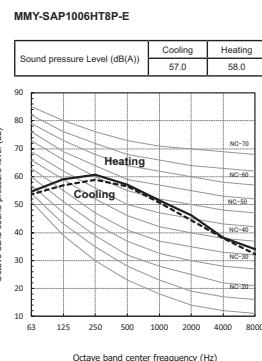
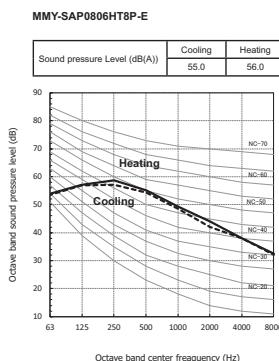
- Total capacity of combined indoor units: 90% - 105%

- Single CDU, and up to 20HP

- Minimum capacity of connectable indoor: unit 4HP or larger

## Sound pressure levels

Unit: dB(A)



## Night mode sound pressure levels

Sound reduction and capacity approximation (Reference)

	Night operation sound reduction dB (A)	Capacity	
		Cooling	Heating
0806 type	50	Approx. 85%	Approx. 80%
1006 type	50	Approx. 70%	Approx. 65%

## Accessories

	Name	Model name	Capacity	Appearance	Remarks
Branching joints and headers	Y-shape branching joint	RBM-BY55E	Under 6.4hp		
		RBM-BY105E	From 6.4 to 14.2hp		
		RBM-BY205E	From 14.2 to 25.2hp		
		RBM-BY305E	25.2hp or more		
Optional PCB of outdoor unit	4-branched header	RBM-HY1043E	Under 14.2hp		
		RBM-HY2043E	From 14.2 to 25.2hp		
	8-branched header	RBM-HY1083E	Under 14.2hp		
		RBM-HY2083E	From 14.2 to 25.2hp		
	Power peak-cut control board	TCB-PCDM4E			Limit capacity of the VRF outdoor unit at 85%, 75%, 70% or 60% load or stop it. Dry contact
	External master ON/OFF control board	TCB-PCM04E			Dry contact
	Output control board	TCB-PCIN4E			Operation output: The operation indicator is ON while any indoor unit in the system is operating. Error output: The error indicator is ON when an error occurs on even one of the indoor or outdoor units in the system. Dry contact

# MMV-MUP\_1HT8P

## SMMS-u



CAPACITY

OPERATION



8HP &gt; 120HP



-25°C &gt; +52°C

With new chassis, compressor and heat exchanger, the SMMS-u - the latest generation of Toshiba's VRF - achieves unrivalled efficiency and comfort level.

## Features

## PRELIMINARY DATA

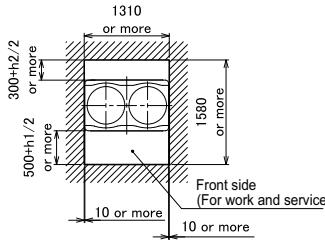
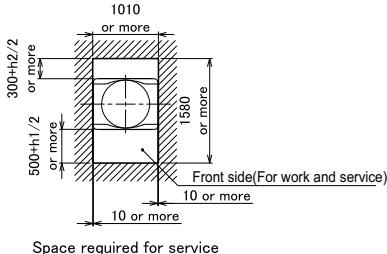
Outdoor unit	MMV-	MUP0801HT8P-E	MUP1001HT8P-E	MUP1201HT8P-E	MUP1401HT8P-E	MUP1601HT8P-E	MUP1801HT8P-E	MUP2001HT8P-E	MUP2201HT8P-E	MUP2401HT8P-E1
Capacity range	HP	8 HP	10 HP	12 HP	14 HP	16 HP	18 HP	20 HP	22 HP	24HP
Cooling capacity	kW	22.4	28.0	33.5	40.0	45.0	50.4	56.0	61.5	67.0
Heating capacity +7°C (rated/max)	kW	22.4/25	28/31.5	33.5/37.5	40/45	45/50	50.4/56	56/63	61.5/69	64.5/70
Heating capacity -7°C	kW	19.8	24.9	29.7	35.6	39.5	44.3	49.8	54.6	55.4
Power supply	V-ph-Hz	380/415-3-50	380/415-3-50	380/415-3-50	380/415-3-50	380/415-3-50	380/415-3-50	380/415-3-50	380/415-3-50	380/415-3-50
Efficiency	EER rated	W/W	3.97	3.35	3.24	2.75	3.20	3.17	3.11	3.01
	EER 50% load	W/W	6.75	6.64	6.36	5.62	6.25	6.19	6.31	5.66
	SEER	η/std	288.67%/7.44	299.92%/7.73	284.02%/7.32	273.54%/7.05	299.15%/7.71	297.98%/7.68	295.66%/7.62	280.52%/7.23
Efficiency	COP rated	W/W	4.24	3.89	4.31	4.00	3.77	4.02	3.75	3.80
	COP 50% load	W/W	4.81	4.57	4.96	4.82	4.69	4.57	4.33	4.21
	COP -7°C 100% load	W/W	3.37	3.07	3.42	3.0	2.88	3.06	2.88	2.94
	SCOP	η/std	174.6%/4.5	185.46%/4.78	187.0%/4.75	178.48%/4.6	185.85%/4.79	184.3%/4.75	171.88%/4.43	172.27%/4.44
Electrical characteristic	Running current	A	C	9.15	13.40	16.00	22.60	21.60	24.40	27.70
	Power input	kW	C	5.64	8.36	10.34	14.55	14.06	15.90	18.01
	Running current	A	H	8.56	11.50	12.10	15.50	18.30	19.30	22.90
	Power input	kW	H	5.28	7.20	7.77	10.00	11.94	12.54	14.93
Dimensions (h x w x d)	mm	1690x990x780	1690x990x780	1690x990x780	1690x990x780	1690x1290x780	1690x1290x780	1690x1290x780	1690x1290x780	1690x1290x780
Weight	kg	228	228	228	228	312	312	334	356	356
Compressor	Type		Hermetic Twin Rotary	Hermetic Twin Rotary	Hermetic Twin Rotary	Hermetic Twin Rotary	Hermetic Triple Rotary	Hermetic Triple Rotary	Hermetic Twin Rotary	Hermetic Twin Rotary
	Motor output	kW	5.3	6.4	8.2	10.8	11.7	14.0	15.9	9.29x2
Fan unit	Type						Propeller fan			
	Motor output	kW	1.0	1.0	1.0	1.0	2.0	2.0	2.0	2.0
	Air volume	m3/h	9900	10500	11700	11880	15300	16800	15900	16500
External static pressure available	Pa	80	80	80	80	80	80	80	80	80
Refrigerant charge R410A	kg	6	6	6	6	9	9	9	9	9
	CO <sub>2</sub> Teq	12.5	12.5	12.5	12.5	18.8	18.8	18.8	18.8	18.8
Power supply wiring	MCA	A	17	23	27	31	34	38	40	57
	MCOP	A	20	32	32	40	40	50	50	63
Pipe connection	Gas line type - Diameter		Brazed - 3/4"	Brazed - 7/8"	Brazed -1-1/8"	Brazed -1-1/8"	Brazed -1-1/8"	Brazed -1-1/8"	Brazed -1-1/8"	Brazed -1-3/8"
	Liquid line type - Diameter		Brazed - 1/2"	Brazed - 1/2"	Brazed - 1/2"	Brazed - 5/8"	Brazed - 5/8"	Brazed - 5/8"	Brazed - 3/4"	Brazed - 3/4"
Max. number of connected indoor units		18	22	27	31	36	40	45	49	54
Sound pressure level	Cooling dB(A)	C	53	55	58	58	60	61	63	63
	Heating dB(A)	H	56	58	62	62	63	67	67	67
Sound power level	Cooling dB(A)	C	75	77	79	79	83	84	86	86
	Heating dB(A)	H	76	77	81	82	86	89	90	90
Operating temperature range	Cooling CDB	C					-10/52			
	Heating CWB	H					-25/15.5			

Connected indoor unit: MMU-UP\_1HP-E

C= Cooling mode

H= Heating mode

## Installation space



Leave space necessary for running, installation and servicing.

- If there is an obstacle above the outdoor unit, leave a space of 2000 mm or more to the top end of the outdoor unit.
- If there is a wall around the outdoor unit, make sure that its height does not exceed 800 mm.

Also applicable for SMMSe stand alone and SHRME

**Capacity table**

Capacity		Combination example*	Model	EER/SEER	COP/SCOP	Max indoor connectivity	
HP	Cooling/Heating in kW						
8	22.4/22.4	8	MMY-MUP0801HT8P-E	3.97/7.44	4.24/4.5	18	
10	28/28	10	MMY-MUP1001HT8P-E	3.35/7.73	3.89/4.78	22	
12	33.5/33.5	12	MMY-MUP1201HT8P-E	3.24/7.32	4.31/4.75	27	
14	40/40	14	MMY-MUP1401HT8P-E	2.75/7.05	4/4.6	31	
16	45/45	16	MMY-MUP1601HT8P-E	3.2/7.71	3.77/4.79	36	
18	50.4/40.5	18	MMY-MUP1801HT8P-E	3.17/7.68	4.02/4.75	40	
20	56/56	20	MMY-MUP2001HT8P-E	3.11/7.62	3.75/4.43	45	
22	61.5/61.5	22	MMY-MUP2201HT8P-E	3.01/7.23	3.8/4.44	49	
24	67/67	24	MMY-MUP2401HT8P-E	2.77/6.87	3.53/4.17	52	
26	73.5/73.5	14 + 12	MMY-UP2611HT8P-E	2.95/4.17	4.14/4.67	58	
28	80/80	14 + 14	MMY-UP2811HT8P-E	2.75/7.05	4/4.6	63	
30	83.9/83.9	18 + 12	MMY-UP3011HT8P-E	3.2/7.52	4.13/4.75	64	
32	89.5/89.5	20 + 12	MMY-UP3211HT8P-E	3.16/7.5	3.94/4.55	65	
34	96/96	20 + 14	MMY-UP3411HT8P-E	2.95/7.35	3.85/4.5	66	
36	100.5/100.5	24 + 12	MMY-UP3611HT8P-E	2.91/7.01	3.76/4.38	67	
38	107/107	24 + 14	MMY-UP3811HT8P-E	2.76/6.93	3.69/4.33	68	
40	112/112	20 + 20	MMY-UP4011HT8P-E	3.11/7.62	3.75/4.43	69	
42	117.4/117.4	24 + 18	MMY-UP4211HT8P-E	2.93/7.22	3.72/4.43	70	
44	123/123	24 + 20	MMY-UP4411HT8P-E	2.91/7.21	3.63/4.3	71	
46	128.5/128.5	24 + 22	MMY-UP4611HT8P-E	2.88/7.04	3.65/4.31	72	
48	134/134	24 + 24	MMY-UP4811HT8P-E	2.77/6.87	3.53/4.17	73	
50	140.5/140.5	24 + 14 + 12	MMY-UP5011HT8P-E	2.86/7.02	3.82/4.44	74	
52	147/147	24 + 14 + 14	MMY-UP5211HT8P-E	2.76/6.96	3.77/4.41	75	
54	152/152	20 + 20 + 14	MMY-UP5411HT8P-E	3.01/7.49	3.81/4.47	76	
56	156.5/156.5	24 + 20 + 12	MMY-UP5611HT8P-E	2.98/7.23	3.75/4.41	77	
58	163/163	24 + 20 + 14	MMY-UP5811HT8P-E	2.87/7.19	3.71/4.37	78	
60	167.5/167.5	24 + 24 + 12	MMY-UP6011HT8P-E	2.85/6.95	3.66/4.3	79	
62	174/174	24 + 24 + 14	MMY-UP6211HT8P-E	2.76/6.92	3.63/4.27	80	
64	179/179	24 + 20 + 20	MMY-UP6411HT8P-E	2.97/7.34	3.67/4.34	81	
66	184.5/184.5	24 + 22 + 20	MMY-UP6611HT8P-E	2.95/7.21	3.68/4.35	82	
68	190/190	24 + 24 + 20	MMY-UP6811HT8P-E	2.86/7.09	3.59/4.26	83	
70	195.5/195.5	24 + 24 + 22	MMY-UP7011HT8P-E	2.84/6.98	3.61/4.26	84	
72	201/201	24 + 24 + 24	MMY-UP7211HT8P-E	2.77/6.87	3.53/4.17	85	
74	207.5/207.5	24 + 24 + 14 + 12	MMY-UP7411HT8P-E	2.83/6.97	3.72/4.36	86	
76	214/214	24 + 24 + 14 + 14	MMY-UP7611HT8P-E	2.76/6.93	3.69/4.33	87	
78	219/219	24 + 20 + 20 + 14	MMY-UP7811HT8P-E	2.93/7.3	3.72/4.39	88	
80	223.5/223.5	24 + 24 + 20 + 12	MMY-UP8011HT8P-E	2.91/7.14	3.68/4.34	90	
82	230/230	24 + 24 + 20 + 14	MMY-UP8211HT8P-E	2.84/7.1	3.66/4.32	92	
84	234.5/234.5	24 + 24 + 24 + 12	MMY-UP8411HT8P-E	2.83/6.95	3.62/4.26	94	
86	241/241	24 + 24 + 24 + 14	MMY-UP8611HT8P-E	2.77/6.91	3.6/4.25	96	
88	246/246	24 + 24 + 20 + 20	MMY-UP8811HT8P-E	2.91/7.21	3.63/4.3	98	
90	251.5/251.5	24 + 24 + 22 + 20	MMY-UP9011HT8P-E	2.9/7.12	3.64/4.3	100	
92	257/257	24 + 24 + 24 + 20	MMY-UP9211HT8P-E	2.84/7.03	3.58/4.24	102	
94	262.5/262.5	24 + 24 + 24 + 22	MMY-UP9411HT8P-E	2.82/6.95	3.59/4.24	104	
96	268/268	24 + 24 + 24 + 24	MMY-UP9611HT8P-E	2.77/6.87	3.53/4.17	106	
98	274.5/274.5	24 + 24 + 24 + 14 + 12	MMY-UP9811HT8P-E	2.82/6.95	3.67/4.31	108	
100	281/281	24 + 24 + 24 + 14 + 14	MMY-UP10011HT8P-E	2.76/6.94	3.65/4.3	110	
102	286/286	24 + 24 + 20 + 20 + 14	MMY-UP10211HT8P-E	2.89/7.2	3.68/4.34	112	
104	290.5/290.5	24 + 24 + 24 + 20 + 12	MMY-UP10411HT8P-E	2.88/7.08	3.65/4.3	114	
106	297/297	24 + 24 + 24 + 20 + 14	MMY-UP10611HT8P-E	2.83/7.04	3.63/4.29	116	
108	301.5/301.5	24 + 24 + 24 + 24 + 12	MMY-UP10811HT8P-E	2.82/6.93	3.6/4.24	118	
110	308/308	24 + 24 + 24 + 24 + 14	MMY-UP11011HT8P-E	2.77/6.9	3.58/4.23	120	
112	313/313	24 + 24 + 24 + 20 + 20	MMY-UP11211HT8P-E	2.88/7.13	3.61/4.28	122	
114	318.5/318.5	24 + 24 + 24 + 22 + 20	MMY-UP11411HT8P-E	2.87/7.07	3.62/4.28	124	
116	324/324	24 + 24 + 24 + 24 + 20	MMY-UP11611HT8P-E	2.82/7	3.57/4.22	126	
118	329.5/329.5	24 + 24 + 24 + 24 + 22	MMY-UP11811HT8P-E	2.81/6.93	3.58/4.23	128	
120	335/335	24 + 24 + 24 + 24 + 24	MMY-UP12011HT8P-E	2.77/6.87	3.53/4.17	128	

\* SMMS-u is accepting any kind of combination, please refer to databook."

# MMY-MUP\_1HT8P

## SMMS-u



### Piping rules

		Allowable value	Piping section
Piping length	Total extension of pipe (Liquid pipe, real length)	Single ODU Combination ODU	500m 1200m (*6)
	Farthest piping length (*1)	Equivalent length Real length	250m 210m
	Equivalent length of farthest piping from 1 <sup>st</sup> branching (*1)		90m (*2)
	Equivalent length of farthest piping between outdoor units		40m
	Max. equivalent length of main piping	Equivalent length Real length	120m (*3) 100m (*3)
	Max. equivalent length of outdoor unit connecting piping		10m
	Max. real length of indoor unit connecting piping		30m
	Max. equivalent length between branches		50m
Difference in height	Height between indoor and outdoor units	Upper outdoor unit Lower outdoor unit	70m (*4)(*7) 40m (*5)(*8)
	Height between indoor units		50m (*9)
	Height between outdoor units		5m
			-

(\*1) : (e) is outdoor unit furthest from the 1<sup>st</sup> branch and (j) is the indoor unit furthest from the 1<sup>st</sup> branch.

(\*2) : If the height difference (H1) between indoor and outdoor unit exceeds 3 m, set 65 m or less.

(\*3) : If the max. combined outdoor unit capacity is 54HP or more, then max. equivalent length is 70 m or less (real length is 50 m or less).

(\*4) : If the height difference (H2) between indoor units exceeds 3 m, set 50 m or less.

(\*5) : If the height difference (H2) between indoor units exceeds 3 m, set 30 m or less.

(\*6) : Total charging refrigerant is 140kg or less.

(\*7) : Extension up till 110m is possible with conditions below :

-Single outdoor unit system

-Connected ratio of indoor units to outdoor units is below 105%

-Liquid side is been increased 1 size from the standard size

(\*8) : Extension up till 110m is possible with conditions below :

-Multiple outdoor unit system

-Connected Ratio of indoor units to outdoor units is below 105%

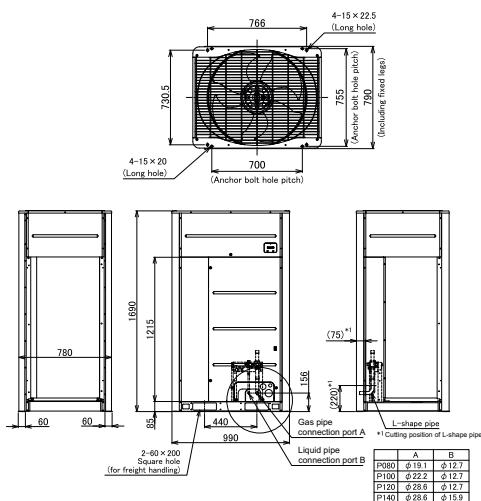
-Minimum capacity of connecting indoor unit is more than 3HP

(\*9) : If the connected ratio of indoor units to outdoor units is more than 105%, set 15 m.

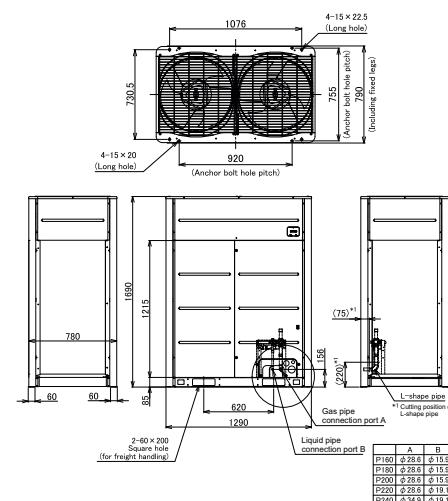
### Drawings

Unit: mm

MMY-MUP0801HT8P-E, MMY-MUP1001HT8P-E  
MMY-MUP1201HT8P-E, MMY-MUP1401HT8P-E



MMY-MUP1601HT8P-E, MMY-MUP1801HT8P-E, MMY-MUP2001HT8P-E,  
MMY-MUP2201HT8P-E, MMY-MUP2401HT8P-E1

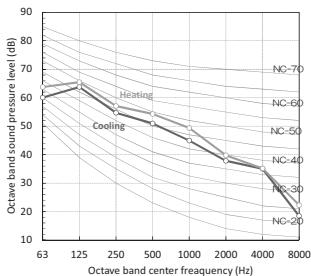


### Sound pressure levels

Unit: dB(A)

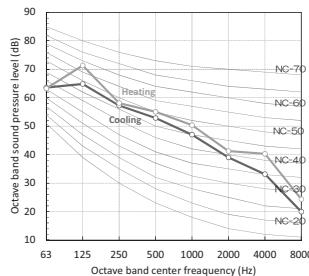
MMY-MUP0801HT8P-E

Sound pressure Level (dB(A))	Cooling	Heating
53.0	56.0	



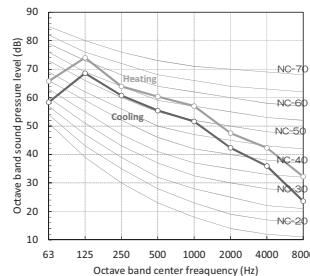
MMY-MUP1001HT8P-E

Sound pressure Level (dB(A))	Cooling	Heating
55.0	58.0	



MMY-MUP1201HT8P-E

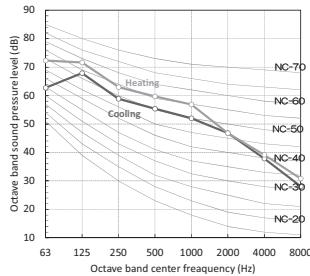
Sound pressure Level (dB(A))	Cooling	Heating
58.0	62.0	



## Sound pressure levels

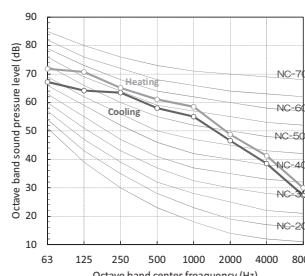
MMY-MUP1401HT8P-E

Sound pressure Level (dB(A))	Cooling	Heating
	58.0	62.0



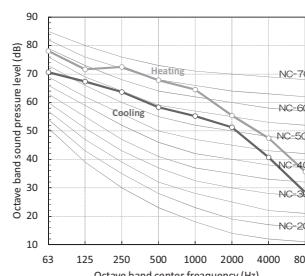
MMY-MUP1601HT8P-E

Sound pressure Level (dB(A))	Cooling	Heating
	60.0	63.0



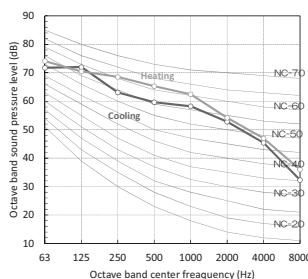
MMY-MUP1801HT8P-E

Sound pressure Level (dB(A))	Cooling	Heating
	61.0	67.0



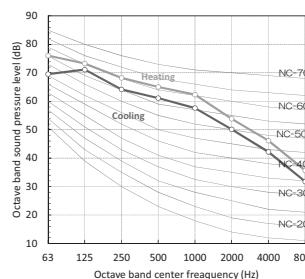
MMY-MUP2001HT8P-E

Sound pressure Level (dB(A))	Cooling	Heating
	63.0	67.0



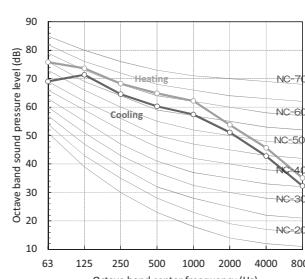
MMY-MUP2201HT8P-E

Sound pressure Level (dB(A))	Cooling	Heating
	63.0	67.0



MMY-MUP2401HT8P-E

Sound pressure Level (dB(A))	Cooling	Heating
	63.0	67.0



## Night mode sound pressure levels

Sound reduction and capacity approximation (Reference)

type	"Night operation sound reduction dB (A)"	Capacity	
		Cooling	Heating
801	50	85%	80%
1001	50	70%	65%
1201	50	60%	55%
1401	53	70%	65%
1601	53	70%	70%
1801	54	65%	65%
2001	54	60%	60%
2201	54	55%	55%
2401	54	55%	55%

Condition : Cooling : (Indoor 27 deg DB, 19 deg WB) - (Outdoor temperature 25 deg DB)

Heating : (Indoor 20 deg DB) - (Outdoor temperature 7 deg DB, 6 deg WB)

## Accessories

	Name	Model name	Capacity	Appearance	Remarks
Branching joints and headers	Y-shape branching joint	RBM-BY55E	under 6.4hp		
		RBM-BY105E	from 6.4 to 14.2hp		
		RBM-BY205E	from 14.2 to 25.2hp		
		RBM-BY305E	from 25.2 to 61.2hp		
		RBM-BY405E	61.2hp or more		
	4-branching header	RBM-HY1043E	under 14.2hp		
		RBM-HY2043E	from 14.2 to 25.2hp		
	8-branching header	RBM-HY1083E	under 14.2hp		
		RBM-HY2083E	from 14.2 to 25.2hp		
Optional PCB of outdoor unit	Branching joint for connection of outdoor units	RBM-BT14E	under 26hp		
		RBM-BT24E	from 26hp to 46hp		
		RBM-BT34E	46hp or more		
	Power peak-cut control board	TCB-PCDM4E			Limit capacity of the VRF outdoor unit at 85%, 75%, 70% or 60% load or stop it. Dry contact
	External master ON/OFF control board	TCB-PCM04E			Dry contact
	Output control board	TCB-PCIN4E			Operation output: The operation indicator is ON while any indoor unit in the system is operating. Error output: The error indicator is ON when an error occurs on even one of the indoor or outdoor units in the system. Dry contact

# MMY-SUG\_1HT8P

## SHRM Advance

&gt; NEW



CAPACITY

OPERATION

Decarbonise commercial building and decrease running cost  
with SHRM Advance HVAC system



8HP &gt; 24HP



-25°C &gt; +50°C

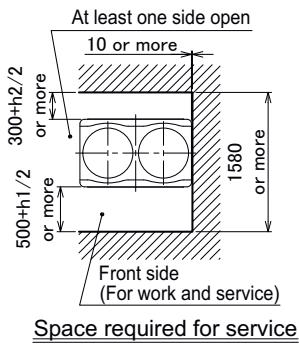
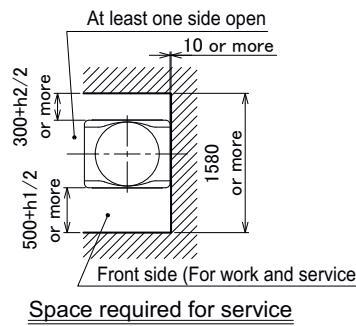
**Features****PRELIMINARY DATA**

Outdoor unit	MMY-	SUG0801MT8P-E	SUG1001MT8P-E	SUG1201MT8P-E	SUG1401MT8P-E	SUG1601MT8P-E	SUG1801MT8P-E	SUG2001MT8P-E	SUG2201MT8P-E	SUG2401MT8P-E
Capacity range		8 HP	10 HP	12 HP	14 HP	16 HP	18 HP	20 HP	22 HP	24HP
Cooling capacity	kW	22.4	28.0	33.5	40.0	45.0	50.4	56.0	61.5	67.0
Heating capacity +7°C (rated/max)	kW	22.4/25	28/31.5	33.5/37.5	40/45	45/50	50.4/56	56/63	61.5/69	67/70
Heating capacity -7°C	kW	19.8	24.9	29.7	35.6	39.5	44.3	49.8	54.6	55.4
Power supply	V-ph-Hz	380/415-3-50	380/415-3-50	380/415-3-50	380/415-3-50	380/415-3-50	380/415-3-50	380/415-3-50	380/415-3-50	380/415-3-50
Efficiency	EER rated	W/W	4.37	4.1	3.77	3.32	3.7	3.41	3.62	3.38
	EER 50% load	W/W	7.18	7.18	6.84	6.47	6.99	6.61	6.64	6.21
	SEER	η/std	353.0%/8.90	344.6%/8.69	326.2%/8.23	320.2%/8.08	342.6%/8.64	329.8%/8.32	328.6%/8.29	312.2%/7.88
Efficiency	COP rated	W/W	4.52	4.5	4.38	3.89	4.07	3.6	3.93	3.82
	COP 50% load	W/W	4.50	4.77	4.37	4.04	4.59	4.20	4.09	3.99
	COP -7°C 100% load	W/W	3.64	3.48	3.30	2.89	3.29	2.74	2.99	2.86
	SCOP	η/std	174.6%/4.44	183.8%/4.67	181.8%/4.62	169%/4.30	183%/4.65	176.6%/4.49	168.6%/4.29	167.4%/4.26
Electrical characteristic	Running current	A	C	9.14	11.5	14.2	18.9	21.1	24.8	25.4
	Power input	kW	C	5.13	6.83	8.88	12.04	12.16	14.78	15.47
	Running current	A	H	8.95	10.6	12.5	16.3	19.9	23.8	23.6
	Power input	kW	H	4.96	6.22	7.64	10.28	11.06	14.00	14.25
Dimensions (h x w x d)	mm	1690x990x780	1690x990x780	1690x990x780	1690x990x780	1690x1290x780	1690x1290x780	1690x1290x780	1690x1290x780	1690x1290x780
Weight	kg	CO/HP	232	232	232	232	329	329	361	361
Compressor	Type						Hermetic Twin Rotary			
	Motor output	kW	4.74	6.40	8.29	11.4	5.63x2	6.84x2	7.16x2	8.48x2
Fan unit	Type						Propeller fan			
	Motor output	kW	1	1	1	1	2	2	2	2
	Air volume	m³/h	9900	10500	11700	11880	15300	16800	15900	16500
External static pressure available	Pa	80	80	80	80	80	80	80	80	80
Refrigerant charge R32	kg	6	6	6	6	9	9	9	9	9
	CO <sub>2</sub> Teq	4.05	4.05	4.05	4.05	6.08	6.08	6.08	6.08	6.08
Power supply wiring	MCA	A	17	23	27	31	34	38	40	57
	MOCP	A	20	32	32	40	40	50	50	63
Pipe connection	Gas line type - diameter	Brazed - 3/4"	Brazed - 7/8"	Brazed -1-1/8"	Brazed -1-1/8"	Brazed -1-1/8"	Brazed -1-1/8"	Brazed -1-1/8"	Brazed -1-1/8"	Brazed -1-3/8"
	Liquid line type - diameter	Brazed - 1/2"	Brazed - 1/2"	Brazed - 1/2"	Brazed - 5/8"	Brazed - 5/8"	Brazed - 5/8"	Brazed - 5/8"	Brazed - 3/4"	Brazed - 3/4"
	HP/LP Gas line type - diameter	Brazed - 5/8"	Brazed - 3/4"	Brazed - 3/4"	Brazed - 3/4"	Brazed - 7/8"	Brazed - 7/8"	Brazed - 7/8"	Brazed - 7/8"	Brazed - 7/8"
Max. number of connected indoor units (0.3HP indoor units only)		18 (23)	22 (28)	27 (34)	31 (39)	36 (46)	40 (51)	45 (57)	49 (62)	54 (69)
Sound pressure level	Cooling	dB(A)	C	53	55	58	58	60	61	63
	Heating	dB(A)	H	56	58	62	63	64	67	67
Sound power level	Cooling	dB(A)	C	74	75	79	79	83	84	85
	Heating	dB(A)	H	77	78	82	84	87	89	90
Operatin temperature range	Cooling	CDB	C				-15/50			
	Heating	CWB	H				-25/15.5			

Connected indoor unit: MMU-UP\_1H-E C

C= Cooling mode

H= Heating mode

**Installation space****Leave space necessary for running, installation and servicing.**

- If there is an obstacle above the outdoor unit, leave a space of 2000 mm or more to the top end of the outdoor unit.
- If there is a wall around the outdoor unit, make sure that its height does not exceed 800 mm.

Also applicable for SMMSe stand alone and SHRME

## Capacity table

Capacity		Combination	Modèle	EER/SEER	COP/SCOP	Max indoor connectivity (0.3HP IDU only)	
HP	Cooling/Heating in kW						CDU
8	22.4/22.4	8	MMY-SUG0801MT8P-E	4.37/8.9	8.9/4.52	18 (23)	
10	28/28	10	MMY-SUG1001MT8P-E	4.1/8.69	8.69/4.5	22 (28)	
12	33.5/33.5	12	MMY-SUG1201MT8P-E	3.77/8.23	8.23/4.38	27 (34)	
14	40/40	14	MMY-SUG1401MT8P-E	3.32/8.08	8.08/3.89	31 (39)	
16	45/45	16	MMY-SUG1601MT8P-E	3.7/8.64	8.64/4.07	36 (46)	
18	50.4/40.5	18	MMY-SUG1801MT8P-E	3.41/8.32	8.32/3.6	40 (51)	
20	56/56	20	MMY-SUG2001MT8P-E	3.62/8.29	8.29/3.93	45 (57)	
22	61.5/61.5	22	MMY-SUG2201MT8P-E	3.38/7.88	7.88/3.82	49 (62)	
24	67/67	24	MMY-SUG2401MT8P-E	2.76/6.66	6.66/3.44	52 (69)	

## Piping rules

		Allowable value		Piping section	
		3-pipe operations	2-pipe operations	3-pipe operations	2-pipe operations *3
Piping length	Total extension of pipe (Liquide pipe, real lenght)	500m *1	500m *1	L1+L2+L3+L4+L5+L7+L8 +L9+L10+L11+L12+L13 +L14+a+b+c+d+e+f+g+h +i+j+k+l+m+n	L1+L2+L3+L4+L5+L6+L7 +a+b+c+d+e+f+g+h+i+j
	Farthest piping lenght	190m	215m	L1+L3+L13+L14+n	L1+L2+L3+L4+L5+L6+j
	Real lenght	165m	190m		
	Maximum lenght of main piping	125m		L1	
	Equivalent lenght of farthest piping from 1 st branching L1	100m			
	H1 > 3m	50m	65m	L3+L13+L14+n	L3+L4+L5+L6+j
	H1 ≤ 3m	65m	90m		
	Maximum real length of piping from end branch to indoor unit	50m		L4+a,L5+b,L6+c,d,e, L10+f,g,h,i,j,k,l,m,n	a,b,c,d,e,f,g,h,i,j
Difference in height	Height between outdoor and indoor units H1	H2 > 3m	50m		
		H2 ≤ 3m	70m (90m*2)		
	Lower outdoor unit		40m		
	Height between indoor units H2	Upper outdoor unit	40m		
		Lower outdoor unit	30m	40m	
Difference height between indoor units in the same Flow Selector unit H3		15m	-	L11+g,L11+L12+h,L11+L12+i, L14+m,L14+n	

\*1:The total amount of system refrigerant should be 63.8kg or less.

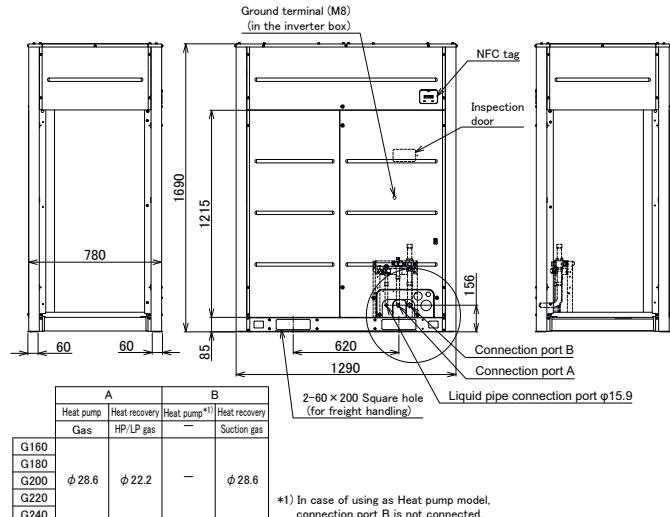
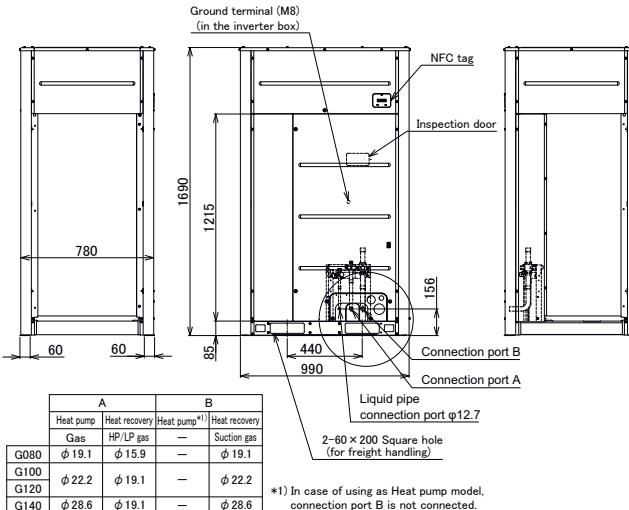
\*2:Extention up till 90m is possible with conditions below:

- Connected ratio of indoor units to outdoor units is below 105%
- Liquid side has been increased 1 size from standard size
- Change the connection method of the indoor unit from flare connection to welding connection

\*3: 8, 10 &amp; 12HP only

## Drawings

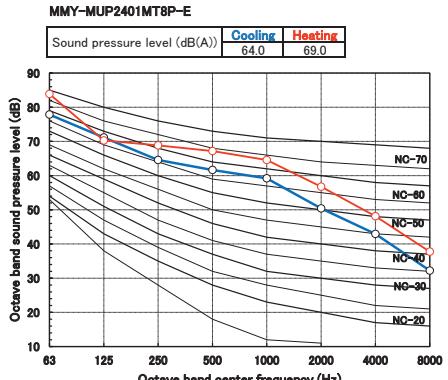
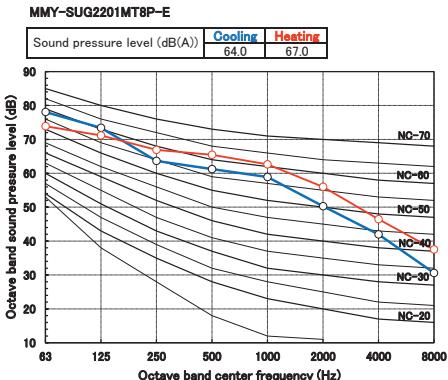
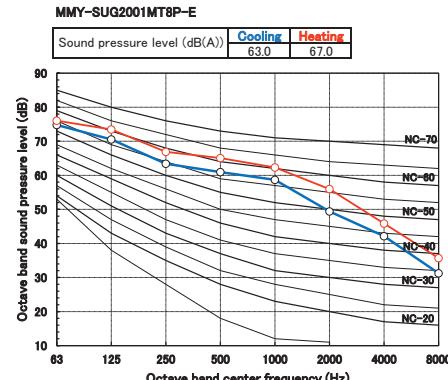
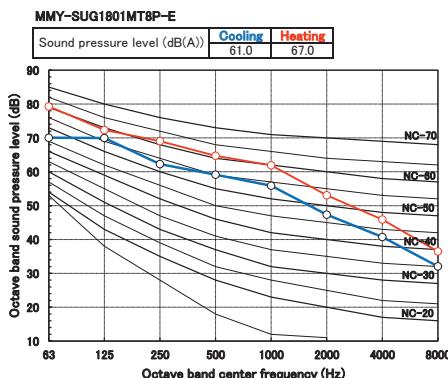
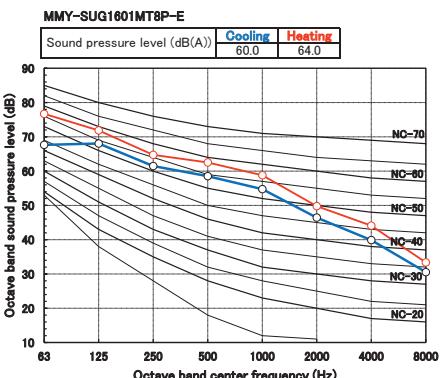
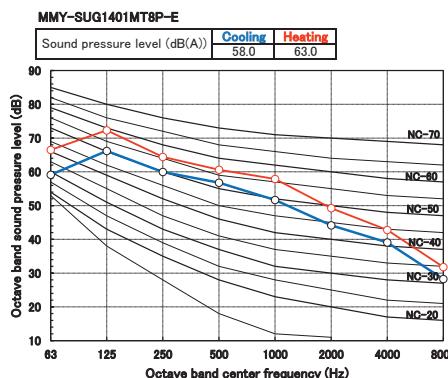
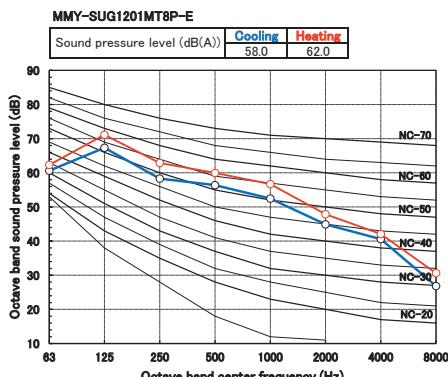
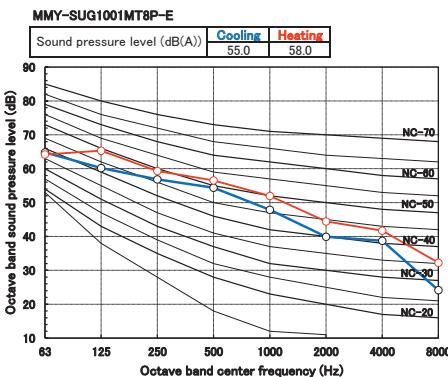
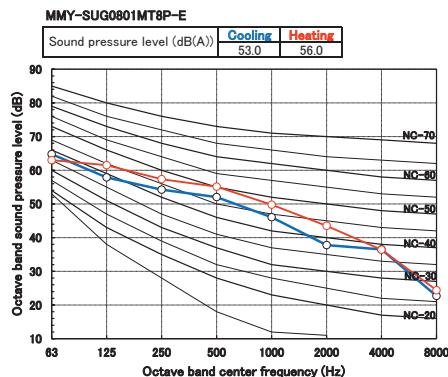
Unit: mm

MMY-SUG0801MT8P-E, MMY-SUG1001MT8P-E,  
MMY-SUG1201MT8P-E, MMY-SUG1401MT8P-EMMY-SUG1601MT8P-E, MMY-SUG1801MT8P-E, MMY-SUG2001MT8P-E,  
MMY-SUG2201MT8P-E, MMY-SUG2401MT8P-E



## Sound pressure levels

Unit: dB(A)



## Night mode sound pressure levels

Sound reduction and approximation capacity (reference)

Type	Night operation sound reduction dB(A) - Cooling/Heating	Capacity	
		COOL	HEAT
0801	50/50	Approx. 85%	Approx. 85%
1001	50/50	Approx. 70%	Approx. 70%
1201	50/50	Approx. 80%	Approx. 80%
1401	50/50	Approx. 70%	Approx. 70%
1601	53/53	Approx. 65%	Approx. 65%
1801	54/54	Approx. 60%	Approx. 60%
2001	53/54	Approx. 55%	Approx. 55%
2201	53/55	Approx. 55%	Approx. 55%
2401	53/55	Approx. 55%	Approx. 55%

Condition: Cooling: (Indoor 27 deg DB, 19 deg WB) - (Outdoor temperature 25 deg DB)

Heating: (Indoor 20 deg DB) - (Outdoor temperature 7 deg DB, 6 deg WB)

## Accessories

	Name	Model name	Capacity	Appearance	Dimensions (mm)	Remarks
Branching joints and headers	Y-shape branching joint	RBM-BY55FE	<6.4hp			
		RBM-BY105FE	6.4≤ P <14.2hp			
		RBM-BY205FE	14.2≤ P <25.2hp			
		RBM-BY305FE	>25.2hp			
	4-branching header	RBM-HY1043FE	<14.2hp			
		RBM-HY2043FE	14.2≤ P <25.2hp			
	8-branching header	RBM-HY1083FE	<14.2hp			
		RBM-HY2083FE	14.2≤ P <25.2hp			
Flow selector (with embedded shut off valve)	Single output	RBM-Y1121FUPE	<4hp		206x385x282	1 output - from 1 to 6 IDU per output
		RBM-Y1801FUPE	4≤ P <6.4hp			1 output - from 1 to 10 IDU per output
		RBM-Y2801FUPE	6.4≤ P <10hp			1 output - from 1 to 16 IDU per output
	Multiple output	RBM-Y1801FU4PE	< 6.4hp per output		293x338x468	4 outputs - from 1 to 10 IDU per output
		RBM-Y1801FU8PE			293x578x468	8 outputs - from 1 to 10 IDU per output
		RBM-Y1801F12PE			293x818x468	12 outputs - from 1 to 10 IDU per output
	Single output	RBM-SV1121HUPE	<4hp		206x385x282	1 output - from 1 to 6 IDU per output
		RBM-SV1801HUPE	4hp≤ P <6.4hp		206x385x282	1 output - from 1 to 10 IDU per output
Battery kit		TCB-BT1UPE				Battery-kit for flow selector and shuf-of valve
Leak detector		TCB-LD1UPE				
Optionnal PCB of outdoor unit	Power peak-cut control board	TCB-PCDM4E				Limit capacity of the VRF outdoor unit at 85%, 75%, 70% or 60% load or stop it. Dry contact
	External master ON/OFF control board	TCB-PCM04E				Dry contact
	Output control board	TCB-PCIN4E				Operation output : The operation indicator is on while any indoor unit in the system is operating. Error output : The error indicator is on when an error occurred on even one of the indoor or outdoor units in the system. Dry contact

## Indoor units compatibility

Indoor unit type	Lineup	Capacity range	Comment
Cassette type	Smart 4-way cassette	1 to 6 hp	Ionizer and PM2.5 filter available as an option  Plasam filter available as an option
	Standard 4-way cassette	1 to 6 hp	
	Compact 4-way cassette	0.6 to 2 hp	
	2-way cassette	0.8 to 6 hp	
	1-way cassette	0.3 to 3 hp	
Duct type	Slim duct	0.3 to 2.5 hp	Compatible with 3DW diffusor
	Standard duct	0.6 to 6 hp	
	High static pressure duct	2 to 10 hp	
	Fresh air duct	5 to 14 hp	
Ceiling		1.7 to 6 hp	
High wall		0.3 to 6 hp	Ultra pure filter available as an option
Water module		3 & 6 hp	Unique on the market

# MMY-MAP\_FT8P

## SHRM-e



CAPACITY OPERATION



8HP &gt; 54HP -25°C &gt; +46°C

**Features**

Outdoor unit		MMY-	MAP0806FT8P-E	MAP1006FT8P-E	MAP1206FT8P-E	MAP1406FT8P-E	MAP1606FT8P-E	MAP1806FT8P-E	MAP2006FT8P-E
Capacity range	HP		8	10	12	14	16	18	20
Cooling capacity <sup>1</sup>	Rated	kW	22.4	28.0	33.5	40.0	45.0	50.4	56.0
Heating capacity <sup>2</sup>	Rated	kW	22.4	28.0	33.5	40.0	45.0	50.4	56.0
	Max		25.0	31.5	37.5	45.0	50.0	56.5	58.0
Power supply	V-ph-Hz		380/415-3-50	380/415-3-50	380/415-3-50	380/415-3-50	380/415-3-50	380/415-3-50	380/415-3-50
Efficiency	EER rated	W/W	3.76	3.51	3.43	3.14	3.23	3.15	3.01
	EER 50% load	W/W	7.32	7.035	6.162	5.666	6.233	6.79	5.091
	SEER	η/std	239.8%/6.07	238.2%/6.03	234.6%/5.94	221.4%/5.61	225.8%/5.72	232.6%/5.89	222.6%/5.64
Efficiency	COP rated	W/W	4.15	3.97	3.85	3.81	3.69	3.67	3.52
	COP 50% load	W/W	5.92	5.60	5.38	5.48	5.28	5.02	4.79
	COP -7°C 100% load	W/W	3.35	3.20	3.03	3.05	2.91	2.96	2.77
	SCOP	η/std	142.6%/3.64	138.2%/3.53	145.4%/3.71	139.8%/3.57	137%/3.50	140.6%/3.59	140.6%/3.59
Electrical characteristic	Running current	A	C	9.4	12.5	15.5	19.9	21.8	25.1
	Power input	kW	C	5.95	7.98	9.77	12.74	13.93	16.00
	Running current	A	H	8.6	11.1	13.8	16.5	19.1	21.5
	Power input	kW	H	5.40	7.05	8.70	10.50	12.20	13.73
Dimensions (h x w x d)	mm	1830 x 990 x 780	1830 x 990 x 780	1830 x 1210 x 780	1830 x 1210 x 780	1830 x 1600 x 780	1830 x 1600 x 780	1830 x 1600 x 780	1830 x 1600 x 780
Weight	kg	263			316			377	
Compressor	Type				Hermetic Twin Rotary				
	Motor output	kW	2.3x2	3.1x2	3.9x2	4.8x2	5.8x2	6.5x2	7.6x2
Fan unit	Type				Propeller fan				
	Motor output	W	1	1	1	1	2	2	2
	Air volume	m³/h	9700		12200		17300		17900
External static pressure available	Pa	60	60	50	40	40	40	40	40
R410A refrigerant charge	kg/CO <sub>2</sub> Teq	11/23	11/23	11/23	11/23	11/23	11/23	11/23	11/23
Power supply wiring	MCA	A	21.5	26.1	31	35.8	40.6	44.9	49.3
	MCOP	A	25.0	32.0	40.0	50.0	50.0	50.0	63.0
Pipe connection	Suction line type - Diameter	Brazed - 7/8"	Brazed - 7/8"	Brazed - 1-1/8"	Brazed - 1-1/8"	Brazed - 1-1/8"	Brazed - 1-1/8"	Brazed - 1-1/8"	Brazed - 1-1/8"
	Discharge line type - Diameter	Brazed - 3/4"	Brazed - 3/4"	Brazed - 3/4"	Brazed - 7/8"	Brazed - 7/8"	Brazed - 7/8"	Brazed - 7/8"	Brazed - 7/8"
	Liquid line type - Diameter	Flare - 1/2" or 3/8	Flare - 1/2" or 3/8	Flare - 1/2" or 3/8	Flare - 5/8" or 1/2	Flare - 3/4" or 1/2	Flare - 3/4" or 5/8	Flare - 3/4" or 5/8	Flare - 3/4" or 5/8
	Balance diameter	Flare - 3/8"	Flare - 3/8"	Flare - 3/8"	Flare - 3/8"	Flare - 3/8"	Flare - 3/8"	Flare - 3/8"	Flare - 3/8"
Connectivity	Max. number of connected indoor units		18	22	27	31	36	40	41
	Diversity ratio	Min/Max			50/130%				
Sound pressure level	Cooling	dB(A)	C	59	59	60	62	61	61
	Heating	dB(A)	H	61	61	62	64	62	62
Sound power level	Cooling	dB(A)	C	80	80	80	81	83	83
	Heating	dB(A)	H	82	82	82	83	84	84
Operation temperature range	Cooling	CDB	C			-10/46			
	Heating	CWB	H			-25/15.5			

Connected indoor units : MMU-UP\_1HP-E

C = Cooling mode

H = Heating mode

Reduced liquid pipe size can be used for the less local refrigerant charge saving case.

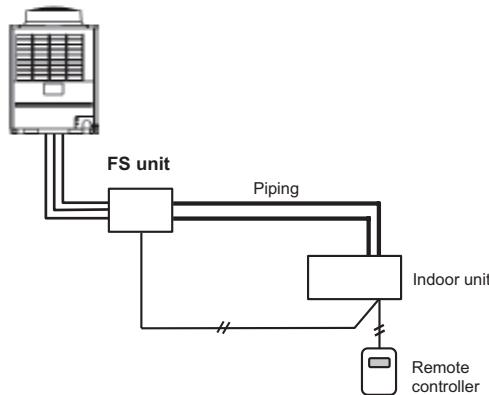
- Refrigerant saving case will cause the following conditions.

\* Real length of main piping (L1) varies 15m ~ 50m by outdoor units capacity.

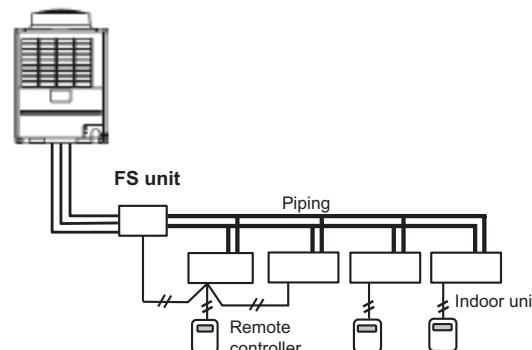
\* Height difference between outdoor to indoor units(H1) is 30m or less

**Installation flexibility**

## &lt; In case of connecting one indoor unit&gt;



## &lt;In case of connecting one group operation of indoor units and two indoor units&gt;



## Capacity table - Standard model

Capacity	Combination	Model	Cooling capacity	Heating capacity	EER	SEER	COP	SCOP	Max indoor connectivity	
8 HP	8	MMY-MAP0806FT8P-E	22,4	25	3,76	6,07	4,14	3,64	18	
10 HP	10	MMY-MAP1006FT8P-E	28	31,5	3,51	6,03	3,97	3,53	22	
12 HP	12	MMY-MAP1206FT8P-E	33,5	37,5	3,43	5,94	3,85	3,71	27	
14 HP	14	MMY-MAP1406FT8P-E	40	45	3,14	5,61	3,8	3,57	31	
16 HP	16	MMY-MAP1606FT8P-E	45	50	3,26	5,72	3,68	3,5	36	
18 HP	18	MMY-MAP1806FT8P-E	50,4	56,5	3,15	5,89	3,67	3,59	40	
20 HP	20	MMY-MAP2006FT8P-E	56	58	3,01	5,64	6,52	3,59	41	
22 HP	12 + 10	MMY-AP2216FT8P-E	61,5	69	3,47	5,99	3,9	3,63	49	
24 HP	14 + 10	MMY-AP2416FT8P-E	68	76,5	3,29	5,81	3,8	3,56	51	
26 HP	14 + 12	MMY-AP2616FT8P-E	73,5	82,5	3,27	5,77	3,83	3,63	58	
28 HP	14 + 14	MMY-AP2816FT8P-E	80	90	3,15	5,61	3,81	3,57	63	
30 HP	16 + 14	MMY-AP3016FT8P-E	85	95	3,2	5,67	3,74	3,54	64	
32 HP	18 + 14	MMY-AP3216FT8P-E	90,4	101,5	3,15	5,77	3,1	3,58	64	
34 HP	18 + 16	MMY-AP3416FT8P-E	95,4	106,5	3,19	5,81	3,68	3,55	64	
36 HP	18 + 18	MMY-AP3616FT8P-E	100,8	113	3,15	5,89	3,68	3,59	64	
38 HP	20 + 18	MMY-AP3816FT8P-E	106,4	114,5	3,08	5,76	3,59	3,59	64	
40 HP	20 + 20	MMY-AP4016FT8P-E	112	116	3,01	5,64	3,52	3,59	64	
42 HP	14 + 14 + 14	MMY-AP4216FT8P-E	120	135	3,15	5,61	3,81	3,57	64	
44 HP	16 + 14 + 14	MMY-AP4416FT8P-E	125	140	3,18	5,65	3,77	3,55	64	
46 HP	18 + 14 + 14	MMY-AP4616FT8P-E	130,4	146,5	3,15	5,72	3,76	3,58	64	
48 HP	18 + 16 + 14	MMY-AP4816FT8P-E	135,4	151,5	3,25	5,77	3,7	3,56	64	
50 HP	18 + 18 + 14	MMY-AP5016FT8P-E	140,8	158	3,21	5,83	3,7	3,59	64	
52 HP	18 + 18 + 16	MMY-AP5216FT8P-E	145,8	163	3,18	5,84	3,68	3,56	64	
54 HP	18 + 18 + 18	MMY-AP5416FT8P-E	152,1	169,5	3,15	5,89	3,68	3,59	64	



## Piping rules

		Allowable value	Piping section
Piping length	Total extension of pipe (Liquid pipe, real length)	Below 34HP 34HP or more	300m 1000m (*9)
	Farthest piping length (*1) (*3)	Equivalent length Real length	200m (*2) 180m
	Equivalent length of farthest piping from 1st branching (*1)	Height difference between IDU >3 m	50m
		Height difference between IDU 3 m	65m
	Equivalent length of farthest piping between outdoor units (*1)		15m
	Max equivalent/real length of main piping (*12)	Height difference between IDU <3 m	100/85m
		Height difference between IDU >3 m	120/100m
	Max. equivalent length of outdoor unit connecting piping		10m
	Max. real length of indoor unit connecting piping		30m
	Max. equivalent length between branches		50m
Difference in height	Maximum real length of terminal branching section to indoor units	Single port type	15m
		Multi port type	50m (*10) (*11)
	Height between indoor and outdoor units (*7)	Upper outdoor unit Lower outdoor unit	70m (*8) (*13) 30m (*6)
	Height between indoor units (*7)	Upper outdoor unit	40m
		Lower outdoor unit (*4)	15m
	Height between outdoor units (*5)		5m
	Maximum equivalent length indoor units in group control by one single port flow selector unit		30m
	Maximum real length between flow selector unit and indoor unit (*2)	Single port type	15m
		Multi port type	50m
	Height difference between indoor units in group control by one flow selector unit		0.5m
In case of 4 series flow selector connection to indoor units			L6 + L7 + L8 + o
			L7 + m 15m or L7 + L8 + n 15m
			s + t, s + u 50m

(\*1) : Farthest outdoor unit from the first branch: (C), farthest indoor unit: (o)

(\*2) : When connecting the multiple indoor units to the single port type flow selector unit, wire the indoor unit to the remote controller to the single port type flow selection unit.

(\*3) : Allowable values for length equivalent to farthest pipe are shown below and they vary according to performance rank of outdoor unit. 22.4 to 56.0: 180 m, 61.5 to 112: 195 m, 120: 200 m.

(\*4) : When system capacity is greater than 28 HP height difference between indoor units is limited to 3 m. If the piping exceeds 3 m with a capacity greater than 28 HP there may be a case of capacity shortage in cooling.

(\*5) : Ensure that the header unit is installed below all connected follower outdoor unit(s).

Possible product failure may occur if header unit is installed above any follower unit(s).

(\*6) : 40 m is possible for a system that uses only the flow selector unit (multi port type), whose all the indoor units are 3HP or higher, and working ambient temperature is 0°C or higher.

(\*7) : As for 44HP to 54HP, contact our agent.

(\*8) : If the height difference (H2) between indoor units exceed 3 m, set 50 m or less.

(\*9) : Total charging refrigerant is 140 kg or less.

(\*10) : The total piping length in one FS unit in case of branching to 4: 120 m (p + q + r + s + t + u). In case of branching to 6: 180 m.

(\*11) : Length of whole pipe should be shorter than 50 m in one branch.

(\*12) : As for 42HP to 54HP contact our agent.

(\*13) : Extension up till 90 m is possible with conditions below

- Outdoor temperature cooling operation: 10 - 46 (DB)

Heating operation: 5 - 15.5 (WB)

Simultaneous operation: 7 - 25 (DB)

- Equivalent length of farthest piping from 1st branching Li &lt; 50 m

- Real length of main piping L1 &lt; 100 m

- Height difference between indoor units H2 &lt; 3 m

- Height difference between FS units &lt; 0.5 m

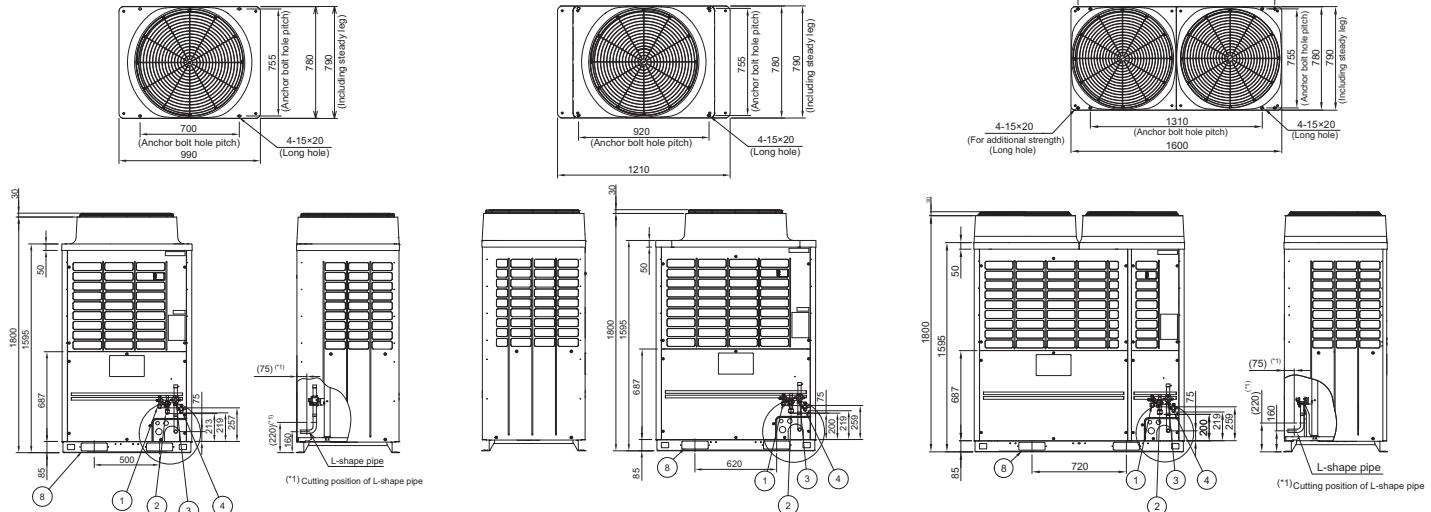
- Total capacity of connectable indoor units: 90% - 100%

- Single CDU, and up to 18HP

- Minimum capacity of connectable indoor unit 4HP or larger.

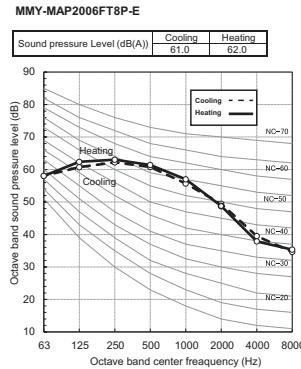
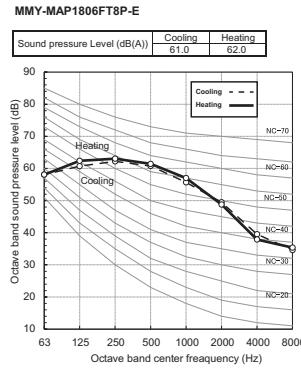
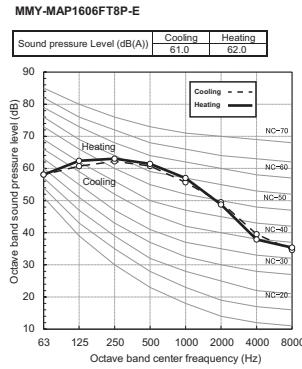
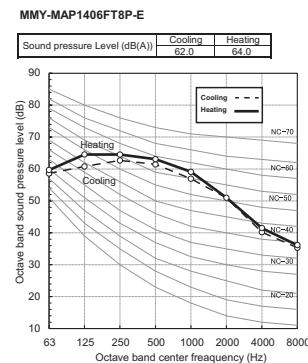
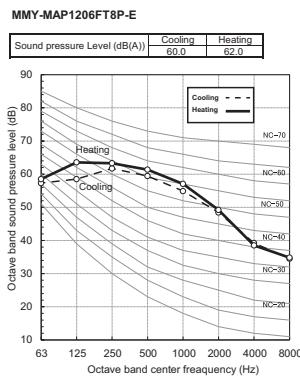
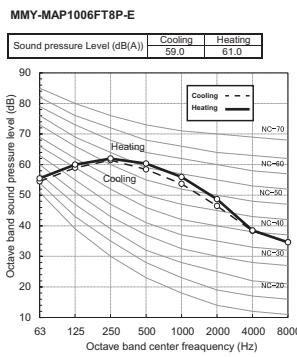
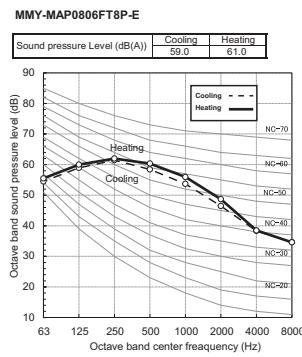
## Drawings

Unit: mm

MMY-MAP0806FT8P-E  
MMY-MAP1006FT8P-EMMY-MAP1206FT8P-E  
MMY-MAP1406FT8P-EMMY-MAP1606FT8P-E  
MMY-MAP1806FT8P-E  
MMY-MAP2006FT8P-E

## Sound pressure levels

Unit: dB(A)



## Night mode sound pressure level

Sound reduction and capacity approximation (Reference)

Type	Night operation sound reduction dB (A)	Capacity	
		Cooling	Heating
0806	50	Approx. 85%	Approx. 85%
1006	50	Approx. 70%	Approx. 70%
1206	53	Approx. 80%	Approx. 80%
1406	53	Approx. 70%	Approx. 70%
1606	54	Approx. 65%	Approx. 65%
1806	54	Approx. 60%	Approx. 60%
2006	54	Approx. 55%	Approx. 55%

## Accessories

	Name	Model name	Capacity	Appearance	Dimensions (mm)	Remarks
Branching joints and headers	Y-shape branching joint	RBM-BY55FE	Under 6.4hp			
		RBM-BY105FE	From 6.4 to 14.2hp			
		RBM-BY205FE	From 14.2 to 25.2hp			
		RBM-BY305FE	25.2hp or more			
	4-branching header	RBM-HY1043FE	Under 14.2hp			
		RBM-HY2043FE	From 14.2 to 25.2hp			
	8-brANCHING header	RBM-HY1083FE	Under 14.2hp			
		RBM-HY2083FE	From 14.2 to 25.2hp			
	Branching joint for connection of outdoor units	RBM-BT14E	Under 26hp			
		RBM-BT24E	26hp or more			
Flow selector	3 series single output FS Box (Powered by IDUs)	RBM-Y1123FE	Under 4hp		190x320x160	1 output - From 1 to 5 IDU per output
		RBM-Y1803FE	From 4 to 6.4hp			1 output - From 1 to 8 IDU per output
		RBM-Y2803FE	From 6.4 to 10hp			1 output - From 1 to 8 IDU per output
	4 series single output FS Box (Up to 50m piping length from FS box to IDU)	RBM-Y1124FE	Under 4hp		180x425x300	1 output - From 1 to 6 IDU per output
		RBM-Y1804FE	From 4 to 6.4hp			1 output - From 1 to 10 IDU per output
		RBM-Y2804FE	From 6.4 to 10hp			1 output - From 1 to 16 IDU per output
	Multiple output	RBM-Y1801F4PE	Up to 6.4hp per output		215x730x567	4 outputs - From 1 to 10 IDU per output
		RBM-Y1801F6PE	Up to 6.4hp per output		215x1050x567	6 outputs - From 1 to 10 IDU per output
	Connection accessory	RBC-CBK15FE				15m Bus cable for 3 serie FS box
Optional PCB of outdoor unit	Power peak-cut control board	TCB-PCDM4E				Limit capacity of the VRF outdoor unit at 85%, 75%, 70% or 60% load or stop it. Dry contact
	External master ON/OFF control board	TCB-PCM04E				Dry contact
	Output control board	TCB-PCIN4E				Operation output: The operation indicator is ON while any indoor unit in the system is operating. Error output: The error indicator is ON when an error has occurred on even one of the indoor or outdoor units in the system. Dry contact

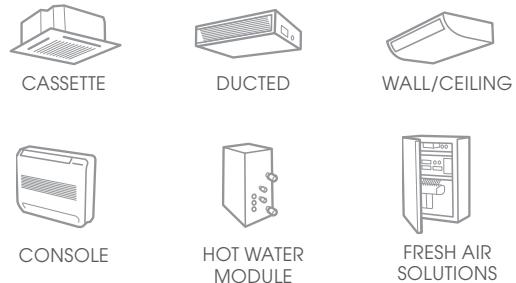
# WIDE CHOICE INDOOR UNITS



## LARGE INDOOR UNIT LINE-UP

The wide choice of indoor unit models increases design flexibility and reduces costs to the building's owner by ensuring the most appropriate system is installed.

- **19 different types of indoor units**
- **Capacity from 0.3 hp to 14 hp**
- **For heating, cooling, fresh air and hot water production**



## SUPERIOR AIR COMFORT

### Optimized heating operations

How to preserve a high heating comfort level at low temperatures or extreme humidity? Toshiba Air Conditioning has the solution! In a single module configuration, the indoor units can provide heating up to 5 hours and an algorithm precisely detects the risk of frost.

In combined configurations, the Kobetsu and Ren-Kei functions ensure defrost rotation control between independent systems, resulting in continuous heating operation.



### Dual set point for more precision

The Dual Set Point increases the system's energy efficiency and reduces overall running costs, with longer periods of time in thermal off mode. Heating and cooling temperatures at which the indoor unit will begin to operate can now be individually selected giving maximum flexibility to the user.



### Cool comfort with soft cooling mode

The development of the soft cooling mode provides a new level for cool comfort. You will have the freedom to personalize the air flow intensity, angle and direction directly from the remote control and enjoy the indoor environment at the right temperature without being directly exposed to the cold draft.



## LOW CONSUMPTION FOR LOW OPERATION COST

Premium comfort doesn't mean high power consumption. By using DC motor, large air discharge surface and magic coil system, Toshiba reduces drastically the indoor unit power consumption.

Example for the 4-Way Cassette size 7:



	PCB	FAN	DRAIN	TOTAL
Low fan speed	4 W	6 W	3 W	13 W
Medium fan speed	4 W	7 W	3 W	14 W
High fan speed	4 W	9 W	3 W	16 W

## NO COMPROMISE ON AIR QUALITY

Every indoor units is equipped with air suction filters. A symbol on the remote control warns the user that the filters need to be cleaned. Available accessories: PM2.5 filters for standard 4-way cassettes, plasma ionizer for 1-way cassettes and ultra-pure filters for high walls do optimize filtration capabilities.

## CHOOSE YOUR ADAPTED SYSTEM SOLUTION

FOR EUROPE



		INDOOR UNITS, HOT WATER & FRESH AIR SOLUTIONS																R32 compatibility
		Basic specifications																R32 compatibility
Model type	Class	003	005	007	009	012	015	018	024	027	030	036	048	056	072	096	112	128
	Cooling/Heating capacity in kW	0.9 /1.1	1.7 /1.9	2.2 /2.5	2.8 /3.2	3.6 /4	4.5 /5	5.6 /6.3	7.1 /8	8.0 /9	9.0 /10	11.2 /12.5	14.0 /16	16.0 /18	22.4 /25	28.0 /31.5	33.5 /20.8	40 /25.2
	Cooling/Heating capacity in HP	0.3	0.6	0.8	1	1.25	1.7	2	2.5	3	3.2	4	5	6	8	10	12	14
Compact 4-way discharge cassette	MMU-UP***1MH-E			●	●	●	●	●	●									●
Smart 4-way discharge cassette	MMU-UP***1H-E				●	●	●	●	●	●	●	●	●	●	●	●		●
4-way discharge cassette	MMU-UP***1HP-E				●	●	●	●	●	●	●	●	●	●	●	●		●
2-way discharge cassette	MMU-UP***1WH-E			●	●	●	●	●	●	●	●	●	●	●	●	●		●
1-way discharge cassette	MMU-UP**1YHP-E	●	●	●	●	●	●	●	●	●	●	●						●
Slim duct	MMD-UP***1SPHY-E	●	●	●	●	●	●	●	●	●	●	●						●
Concealed duct	MMD-UP***1BHP-E	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●		●
Concealed duct high static	MMD-UP***1HP-E(1)							●	●	●			●	●	●	●	●	●
Ceiling suspended	MMC-UP***1HP-E						●	●	●	●			●	●	●			●
Floor-standing concealed	MML-UP***1BH-E		●	●	●	●	●	●	●									
Floor-standing cabinet	MML-UP***1H-E		●	●	●	●	●	●	●									
Bi-flow console	MML-UP***1NH-E		●	●	●	●	●	●										
Floor standing	MMF-UP***1H-E						●	●	●	●	●		●	●	●			
High wall (With & without PMV)	MMK-UP***1HP-E MMK-UP***1HPL-E	●	●	●	●	●	●	●	●	●	●	●						●
Mid temperature Hot Water module	MMW-UP**1LQ-E								●					●				●
High temperature Hot Water module	MMW-AP**1CHQ-E											●						
AHU DX kit (TA/TF/0-10v)	TCB-IFDM*01UP-E RBM-A*01UPVA-E	From 8 to 120HP capacity																
EMEA AHU DX Kit (std version)	MM-DXC010 + MM-DXV***						●	●	●		●	●		●	●			
EMEA AHU DX Kit (0/10v version)	RBC-DXC031 + MM-DXV***													●	●	●		
Fresh air intake indoor unit	MMD-UP***1HFP-E(1)										●		●	●	●	●	●	●

		AIR-TO-AIR HEAT EXCHANGER																Basic specifications			
		Cooling/Heating capacity in HP		0.3	0.6	0.8	1	1.25	1.7	2	2.5	3	3.2	4	5	6	8	10	12	14	Basic specifications
Model type		Air flow in m³/h		150 m³/h	250 m³/h	350 m³/h	500 m³/h	650 m³/h	800 m³/h						1000 m³/h	1500 m³/h	2000 m³/h				
Air-to-air heat exchanger	VN-M**0HE			●	●	●	●	●	●	●						●	●	●	●		
Air-to-air heat exchanger + DX coil or + Dx coil & Humidifier	MMD-VN***2HEXE MMD-VNK***2HEXE							●		●						●					

● :Heat pump



The Compact 4-Way Cassette is especially designed for business office applications, where a compact and efficient solution is required.

CAPACITY	SOUND PRESSURE LEVEL
0.6 HP < 2 HP	29dB(A)

## OUTDOOR UNITS COMPATIBILITY

Side Blow,  
MINI-SMMS &  
MINI SMMS-eSMMS-e &  
SHRM-eSMMS-e &  
SHRM-e

## LOCAL CONTROLS



RBC-AXU31UM-E

RBC-AMTU31-E  
RBC-AMSU52-E  
RBC-AWSU52-E

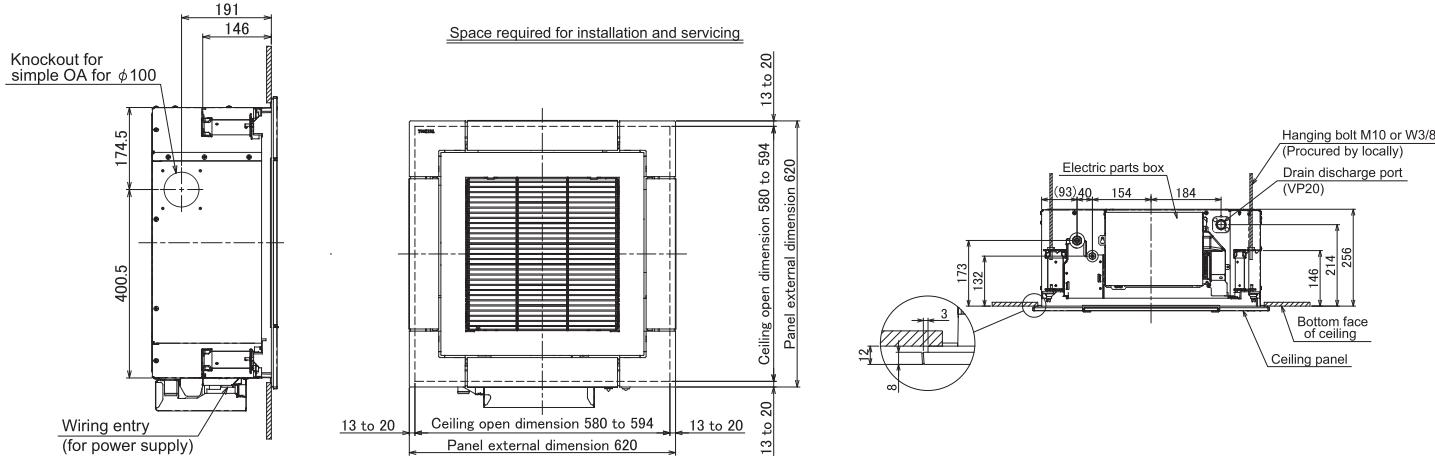
## Features

Model name	MMU-	UP0051MH-E	UP0071MH-E	UP0091MH-E	UP0121MH-E	UP0151MH-E	UP0181MH-E
Capacity code	HP	0.6	0.8	1	1.3	1.7	2
Cooling Capacity	kW	1.7	2.2	2.8	3.6	4.5	5.6
Heating Capacity	kW	1.9	2.5	3.2	4.0	5.0	6.3
Electrical characteristics	Power supply		1 phase 50Hz 230V(220V-240V) - Separate power supply for indoor units is required				
	Running current	A	0.16	0.23	0.24	0.25	0.28
	Power consumption (H)	kW	0.016	0.023	0.025	0.027	0.030
	Starting current	A	0.28	0.41	0.43	0.44	0.50
	Main unit		Zinc hot dipping steel plate (Heat-insulating material attached to only upper plate)				
Appearance	Ceiling panel	Model name		RBC-UM21PG(W)-E			
		Panel color		Gran White (Mansell 5PB9/1)			
Outer dimensions	Main unit	HxLxP mm		256x575x575			
	Ceiling panel	HxLxP mm		12x620x620			
Total weight	Main unit	kg		15			
	Ceiling panel	kg		2.5			
Heat exchanger			Finned tube				
Soundproof/Heat-insulating material			Non-flammable insulation				
	Fan		Turbo fan				
Fan unit	Standard air flow (M+ / M / L+ / L)	m³/h	430 (415/400/385/365)	552 (500/462/395/378)	570 (520/468/395/378)	594 (550/504/420/402)	660 (600/552/480/468)
	Motor	W			60		840 (740/642/540/522)
Sound pressure level High (M+ / M / L+ / L)	dB	32 (31/30/29/29)	37 (34 /33/30/29 )	38 (35/33/30/29 )	38 (36/34 /31/30 )	40 (37/35/32 /31 )	47 (43/39/36/34 )
Sound power level High (M+ / M / L+ / L)	dB	47 (46/45/44 /44 )	52 (49/48/45/44 )	53(50/48/45/44 )	53 (51/49/46 /45 )	55 (52/50/47/46 )	62 (58/54 /51/49 )
Air filter			Standard filter (Long life filter)				
Controller			Infrared or wired remote controller				
Connecting pipe	Gas side	inch	3/8"	3/8"	3/8"	1/2"	1/2"
	Liquid side	inch	1/4"	1/4"	1/4"	1/4"	1/4"
	Drain port (Nominal dia. mm)			VP20 (Polyvinyl chloride tube)			

## Drawings

Unit: mm

## All models

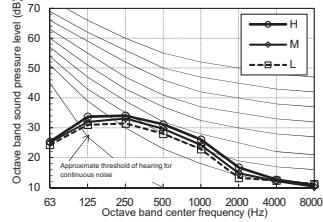


## COMPACT 4-WAY CASSETTE

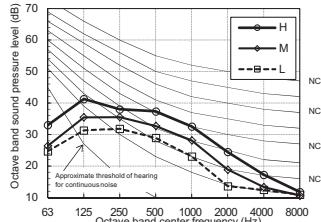
## Sound pressure levels

Unit: dB(A)

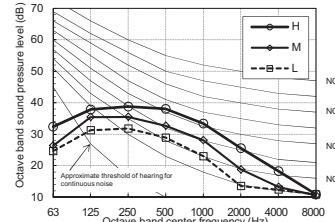
Fan tap	H	M	L
Sound pressure level (dB(A))	32	30	29



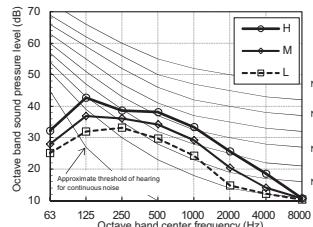
Fan tap	H	M	L
Sound pressure level (dB(A))	37	33	29



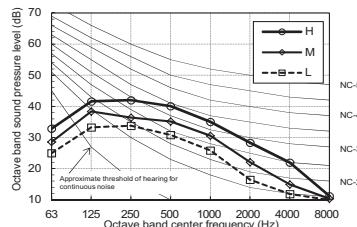
Fan tap	H	M	L
Sound pressure level (dB(A))	38	33	29



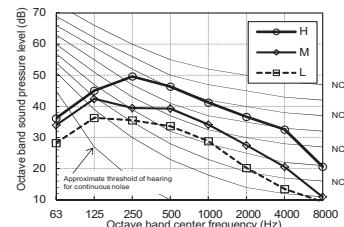
Fan tap	H	M	L
Sound pressure level (dB(A))	38	34	30



Fan tap	H	M	L
Sound pressure level (dB(A))	40	35	31



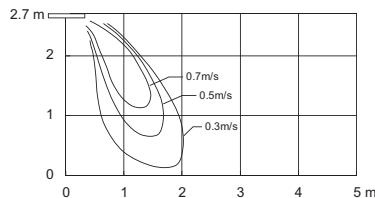
Fan tap	H	M	L
Sound pressure level (dB(A))	47	39	34



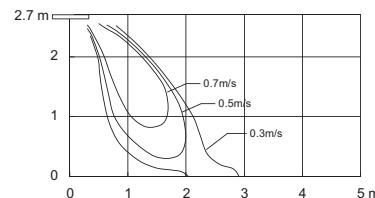
## Air diffusion

Unit: m/s

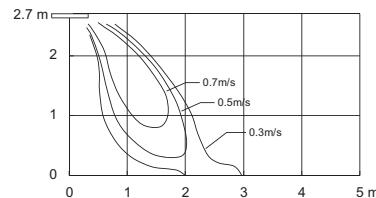
## MMU-UP0051MH-E



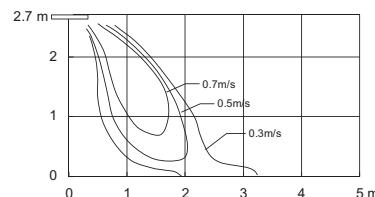
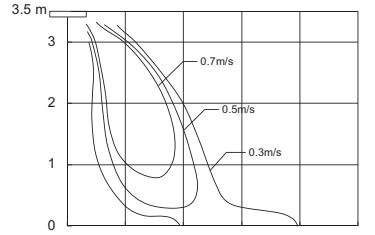
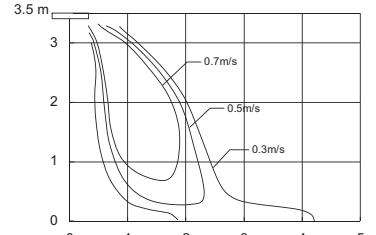
## MMU-UP0071MH-E



## MMU-UP0091MH-E

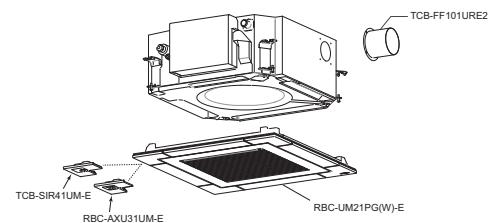


## MMU-UP0121MH-E

MMU-UP0151MH-E  
(High ceiling mode)MMU-UP0181MH-E  
(High ceiling mode)

## Accessories

Part name	Model name	Applied model	Notes
Ceiling panel	RBC-UM21PG(W)-E	MMU-UP____1MH-E	Required accessory
Auxiliary fresh air flange	TCB-FF101URE2		For easy fresh air intake by using the knockout hole of indoor unit (dia=100 mm)
Wireless Remote Control kit	RBC-AXU31UM-E		"Wireless remote control kit and occupancy sensor cannot be used on the same indoor unit"
Occupancy sensor	TCB-SIR41UM-E		



## Compact 4-way cassette connectors

CN32	CN60	CN61	CN70	CN73	CN80
Additional ventilation control from remote control	Operation status signal output (Cooling, heating, fan, defrost, thermo-on)	External On/Off, operation output and alarm output	Warning symbol on remote control based on signal input. No IDU thermo off.	Forced IDU thermo-off based on signal input	Forced IDU thermo-off and IDU lock based on signal input
*	TCB-PCUC2E pcb needed	*	TCB-PCUC2E pcb needed	TCB-PCUC2E pcb needed	TCB-PCUC2E pcb needed

# MMU-UP\_H

## 4-WAY SMART CASSETTE

&gt;R32 Ready



Combining all the expertise of Toshiba Air Conditioning, the Smart Cassette is the perfect mix between comfort, elegance and efficiency

CAPACITY	SOUND PRESSURE LEVEL
0.6 HP < 2 HP	26dB(A)

OUTDOOR UNITS COMPATIBILITY	LOCAL CONTROLS

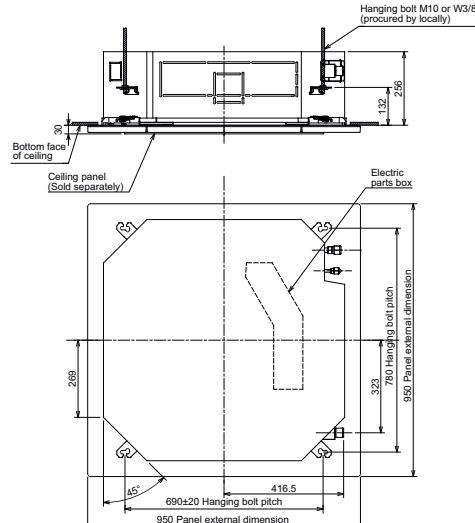
### Features

Model name	MMU-	UP0091H-E/	UP0121H-E/	UP0151H-E/	UP0181H-E/	UP0241H-E/	UP0271H-E/	UP0301H-E/	UP0361H-E/	UP0481H-E/	UP0561H-E/		
Capacity code	hp	1	1.3	1.7	2	2.5	3	3.2	4	5	6		
Cooling	kW	2.8	3.6	4.5	5.6	7.1	8.0	9.0	11.2	14.0	16.0		
Heating	kW	3.2	4.0	5.0	6.3	8.0	9.0	10.0	12.5	16.0	18.0		
<b>Electrical characteristics</b>		Power supply 1 phase 50Hz 230V(220V-240V) - Separate power supply for indoor units is required.											
Electrical characteristics	Running current	50HZ	0.17	0.17	0.19	0.25	0.36	0.46	0.57	0.9	0.92	0.93	
	Power consumption	High	kW	0.021	0.021	0.018	0.026	0.042	0.054	0.068	0.125	0.135	
	Starting current	A		0.26	0.26	0.29	0.37	0.55	0.69	0.86	1.35	1.38	
<b>Appearance</b>		Main unit	Heat-insulating material attached Zinc hot dipping steel plate										
Appearance	Model		RBC-U41PG(W)-E										
	Ceiling panel	Panel color	Gran White (Mansell 5PB9/1)										
Outer dimension	Main unit	HxLxP mm	256x840x840	256x840x840	319x840x840	319x840x840	319x840x840	319x840x840	319x840x840	319x840x840	319x840x840	319x840x840	
	Ceiling panel	HxLxP mm	30x950x950	30x950x950	30x950x950	30x950x950	30x950x950	30x950x950	30x950x950	30x950x950	30x950x950	30x950x950	
Total weight	Main unit	kg	18	18	25	25	25	25	25	25	25	25	
	Ceiling panel	kg	5	5	5	5	5	5	5	5	5	5	
Heat exchanger		Finned tube											
Soundproof / Heat insulating material		Non-flammable insulation											
Fan unit	Fan		Turbo fan										
	Standard air flow	H/M/L	m³/h	846/792/768/ 738/708	846/792/768/ 738/708	1060/960/920/ 860/800	1260/1160/1100/ 1040/940	1580/1440/1300/ 1210/1120	1770/1590/1380/ 1320/1250	1940/1770/1520/ 1450/1400	2184/1848/1596/ 1356/1260	2262/1998/1740/ 1470/1368	2262/2034/1782/ 1512/1404
	Motor output	W		60						130			
Sound pressure level		H/M+/M/ L+/L	dB(A)	30/29/28/ 27/26	30/29/28/ 27/26	32/30/30/ 29/28	36/34/33/ 32/31	41/39/37/ 35/35	42/40/37/ 36/35	44/42/39/ 38/37	45/41/38/ 36/32	46/43/39/ 37/33	46/43/40/ 38/35
Sound power level		H/M+/M/ L+/L	dB(A)	45/44/43/ 42/42	45/44/43/ 42/42	46/45/44/ 43/42	50/48/47/ 46/45	55/53/51/ 49/48	56/54/51/ 50/49	58/56/53/ 52/51	60/56/53/ 50/48	61/57/54/ 52/49	61/58/55/ 53/51
Air filter		Standard filter (Long life filter)											
Controller		Remote controller wired or infrared											
Connecting pipe	Gas pipe	inch	3/8"		1/2"					5/8"			
	Liquid pipe	inch	1/4"		1/4"					3/8"			
	Drain port (Outside dia.)	mm										25 (Polyvinyl chloride tube)	

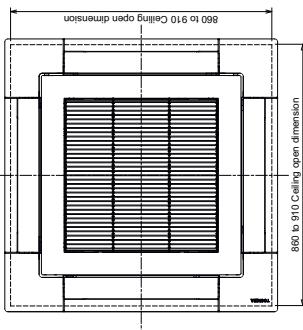
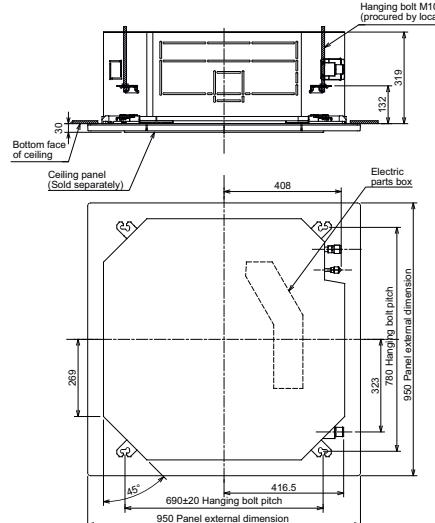
### Drawings

Unit: mm

MMU-UP0091H-E to MMU-UP0121H-E



MMU-UP0151H-E to MMU-UP0561H-E

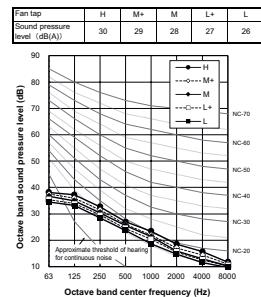


## 4-WAY SMART CASSETTE

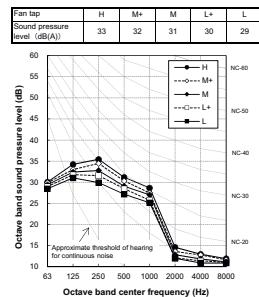
## Sound pressure levels

Unit: dB(A)

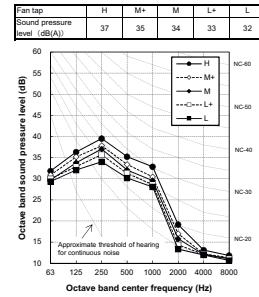
MMU-UP0091H-E, MMU-UP0121H-E



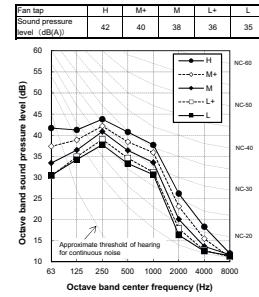
MMU-UP0151H-E



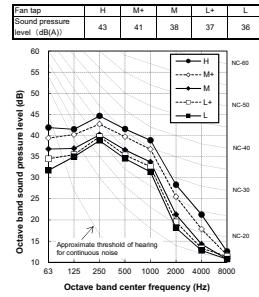
MMU-UP0181H-E



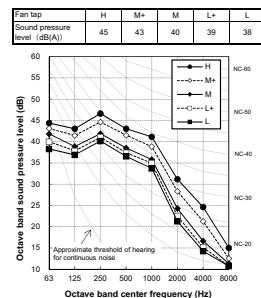
MMU-UP0241H-E



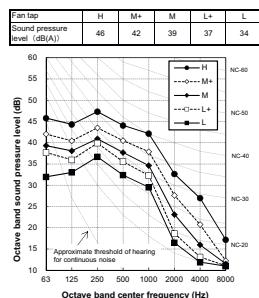
MMU-UP0271H-E



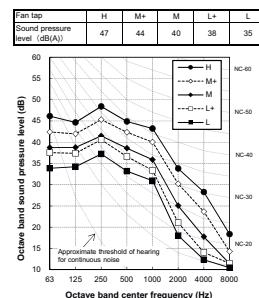
MMU-UP0301H-E



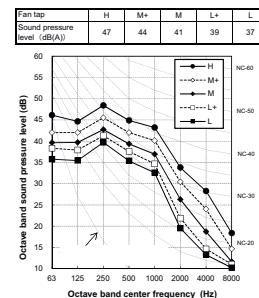
MMU-UP0361H-E



MMU-UP0481H-E

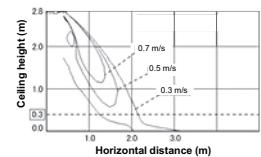


MMU-UP0561H-E

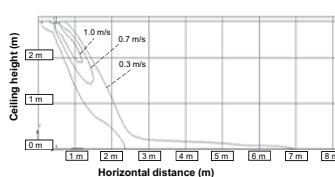


## Air diffusion

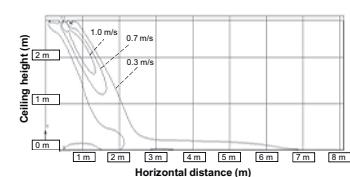
Unit: m/s

MMU-UP0091H-E,  
MMU-UP0121H-E

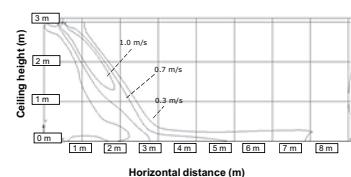
MMU-UP0151H-E



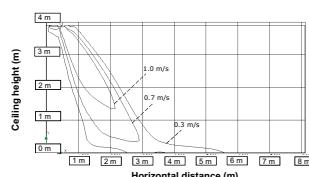
MMU-UP0181H-E



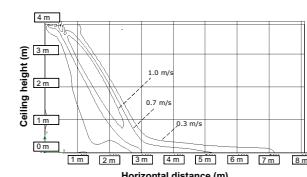
MMU-UP0241H-E



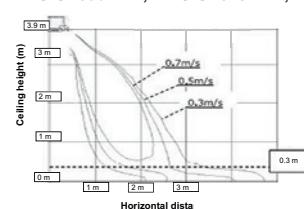
MMU-UP0271H-E



MMU-UP0301H-E

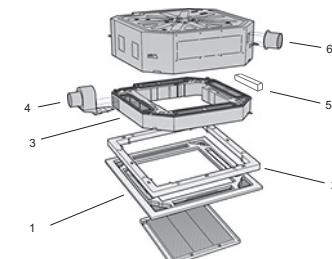


MMU-UP0361H-E, MMU-UP0481H-E, MMU-UP0561H-E



## Accessories

No	Type	Model name	Qty/unit	Note
1	Ceiling panel	RBC-U41PG(W)-E	1	
2	Spacer for height adjustment	TCB-SP1602UE	1	50 mm
3	Fresh air chamber	TCB-GFC1602UE	1	Use with TCB-GB1602U
4	Fresh air intake box	TCB-GB1602UE	1	Connection=Dia.100 mm - Fresh air intake ratio: Up to 20%
5	Air discharge direction kit	TCB-BC1602UE	1	6-direction patterns
6	Auxiliary fresh air flange	TCB-FF101URE2	1	Connection=Dia.100 mm - Fresh air intake ratio: Up to 5%
7	Occupancy sensor	TCB-SIR41U-E	1	
	Wireless remote kit	RBC-AXU41U-E	1	Cannot be mixed with occupancy sensor



## Compact 4-way cassette connectors

	CN32	CN60	CN61	CN70	CN73	CN80
Additional ventilation control from remote control	Operation status signal output (cooling, heating, fan, defrost, thermo-on)	External On/Off, operation output and alarm output	Warning symbol on remote control based on signal input. No IDU thermo off.	Forced IDU thermo-off based on signal input	Forced IDU thermo-off and IDU lock based on signal input	
*	TCB-PCUC2E pcb needed	*	TCB-PCUC2E pcb needed	TCB-PCUC2E pcb needed	TCB-PCUC2E pcb needed	TCB-PCUC2E pcb needed



The 4-Way Cassette is designed to provide uniform air distribution and total user comfort making this unit the ideal solution for small commercial applications.

CAPACITY	SOUND PRESSURE LEVEL
1 HP < 6 HP	27dB(A)

## OUTDOOR UNITS COMPATIBILITY

Side Blow,  
MINI-SMMS &  
MINI SMMS-eSMMS-e &  
SHRM-e

## LOCAL CONTROLS

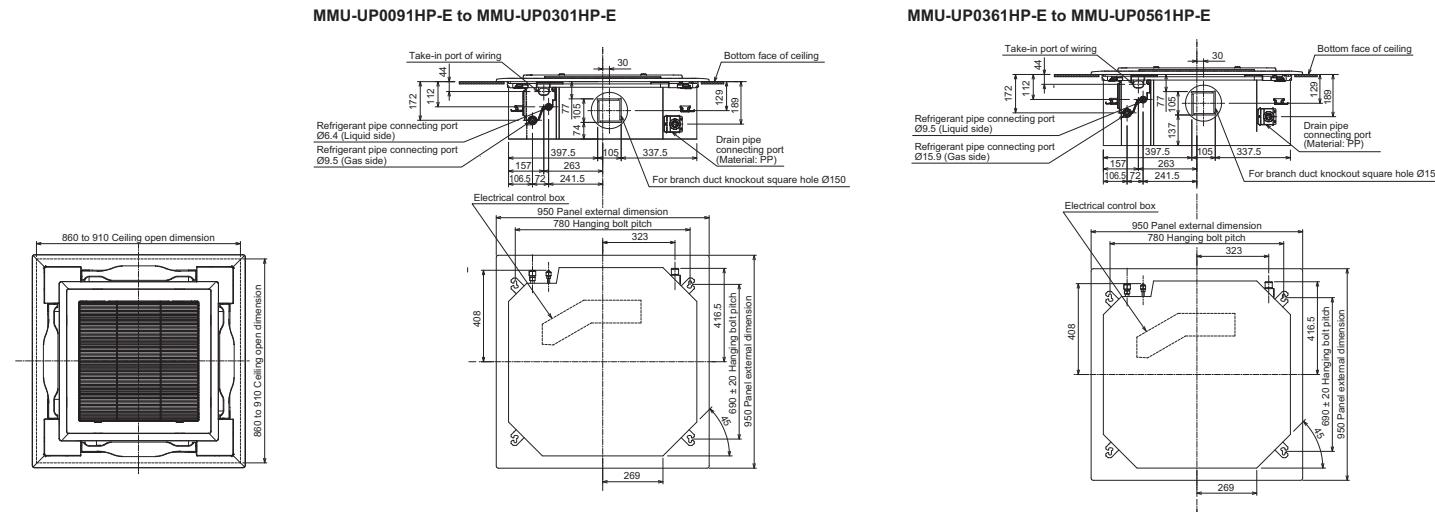
RBC-AXU31U-E  
RBC-AXU33UP-ERBC-AMTU31-E  
RBC-AMSU52-E  
RBC-AWSU52-E

## Features

Model name	MMU-	UP0091HP-E	UP0121HP-E	UP0151HP-E	UP0181HP-E	UP0241HP-E	UP0271HP-E	UP0301HP-E	UP0361HP-E	UP0481HP-E	UP0561HP-E
Capacity code	HP	1	1.3	1.7	2	2.5	3	3.2	4	5	6
Cooling	kW	2.8	3.6	4.5	5.6	7.1	8.0	9.0	11.2	14.0	16.0
Heating	kW	3.2	4.0	5.0	6.3	8.0	9.0	10.0	12.5	16.0	18.0
Electrical characteristics	Power supply				1 phase 50Hz 230V(220V-240V) - Separate power supply for indoor units is required						
	Running current	50HZ	0.23	0.23	0.28	0.29	0.38	0.38	0.43	0.73	0.88
	Power consumption H	W	21	21	23	26	36	36	43	88	112
	Starting current	A	0.30	0.30	0.33	0.36	0.42	0.42	0.59	0.87	1.23
Appearance	Main unit										
	Ceiling panel	Model									
		Panel color									
Outer dimensions	Main unit	HxLxP mm	256x840x840	256x840x840	256x840x840	256x840x840	256x840x840	256x840x840	319x840x840	319x840x840	319x840x840
	Ceiling panel	HxLxP mm	30x950x950	30x950x950	30x950x950	30x950x950	30x950x950	30x950x950	30x950x950	30x950x950	30x950x950
Total weight	Main unit	kg	18	18	20	20	20	20	25	25	25
	Ceiling panel	kg	4	4	4	4	4	4	4	4	4
Heat exchanger											
Soundproof / Heat insulating material											
Fan unit	Fan										
	Standard air flow	H/M/L	m³/h	800/730/680	800/730/680	930/830/790	1050/920/800	1290/920/800	1290/920/800	1320/1100/850	1970/1430/1070
	Motor output	W		60	60	60	60	60	60	130	130
Sound pressure level	H/M/L	dB(A)		30/29/27	30/29/27	31/29/27	32/29/27	35/31/28	35/31/28	38/33/30	43/38/32
Sound power level	H	dB(A)		45/44/42	45/44/42	46/44/42	47/44/42	50/46/43	53/48/45	58/53/47	61/53/48
Air filter											
Controller											
Connecting pipe	Gas pipe	inch	3/8"	3/8"	1/2"	1/2"	5/8"	5/8"	5/8"	5/8"	5/8"
	Liquid pipe	inch	1/4"	1/4"	1/4"	1/4"	3/8"	3/8"	3/8"	3/8"	3/8"
	Drain port (Outside dia.)	mm					25 (Polyvinyl chloride tube)				

## Drawings

Unit: mm

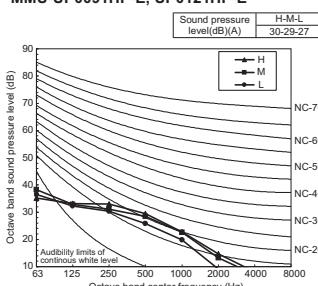


## 4-WAY CASSETTE

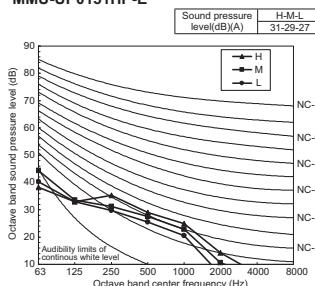
## Sound pressure levels

Unit: dB(A)

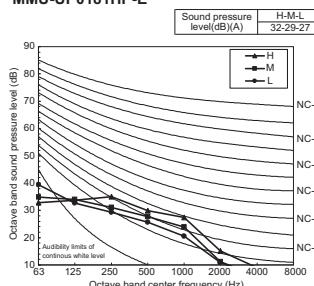
MMU-UP0091HP-E, UP0121HP-E



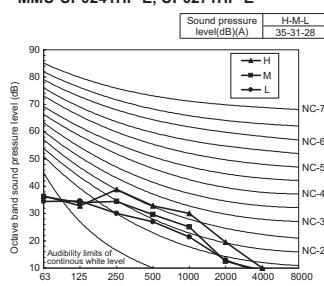
MMU-UP0151HP-E



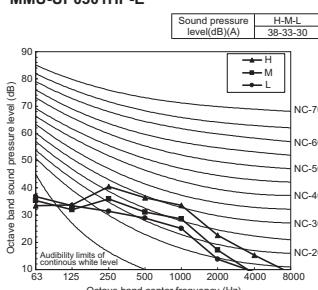
MMU-UP0181HP-E



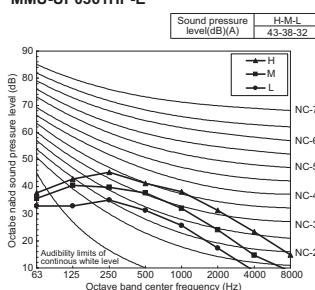
MMU-UP0241HP-E, UP0271HP-E



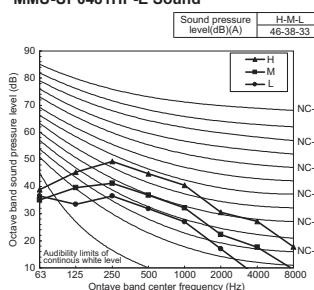
MMU-UP0301HP-E



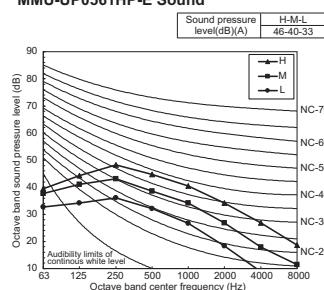
MMU-UP0361HP-E



MMU-UP0481HP-E Sound



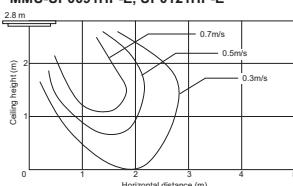
MMU-UP0561HP-E Sound



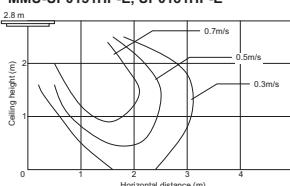
## Air diffusion

Unit: m/s

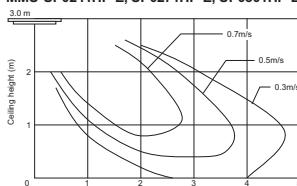
MMU-UP0091HP-E, UP0121HP-E



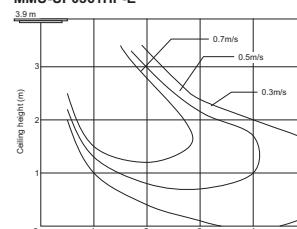
MMU-UP151HP-E, UP0181HP-E



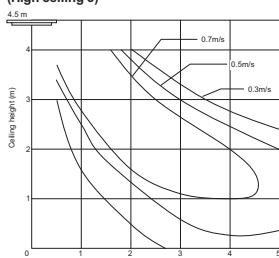
MMU-UP0241HP-E, UP0271HP-E, UP0301HP-E



MMU-UP0361HP-E



MMU-UP0481HP-E, UP0561HP-E (High ceiling 3)



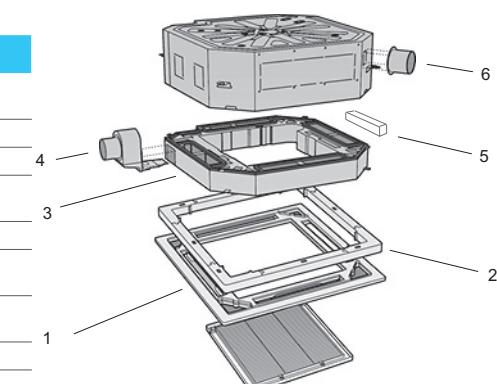
## Accessories

No	Type	Model name	Qty/unit	Note
1	Ceiling panel	RBC-U33P-E RBC-U32PGP-E	1	
2	Spacer for height adjustment	TCB-SP1602UE	1	50 mm
3	Fresh air chamber	TCB-GFC1602UE	1	Use with TCB-GB1602U
4	Fresh air intake box	TCB-GB1602UE	1	Connection=Dia.100 mm Fresh air intake ratio: Up to 20%
5	Air discharge direction kit	TCB-BC1602UE	1	6-direction patterns
6	Auxilliary fresh air flange	TCB-FF101URE2	1	Connection=Dia.100 mm Fresh air intake ratio: Up to 5%
7	PM 2.5 filter (before/after prefilter)	TCB-PLFC2UPE-80 TCB-PLFC2UPE-120	1	
	Occupancy sensor	TCB-SIR33UP-E	1	Compatible with RBC-U33P-E
	Wireless remote kit model*	RBC-AXU33UP-E RBC-AXU31U-E	1	Compatible with RBC-U33P-E Compatible with RBC-U32PGP-E

\* cannot be mixed with occupancy sensor

## 4-way cassette connectors

CN32	CN60	CN61	CN70	CN73	CN80
Additional ventilation control from remote control	Operation status signal output (cooling, heating, fan, defrost, thermo-on)	External On/Off, operation output and alarm output	Warning symbol on remote control based on signal input. No IDU thermo off.	Forced IDU thermo-off based on signal input	Forced IDU thermo-off and IDU lock based on signal input
*	TCB-PCUC2E pcb needed	*	*	*	*



# MMU-UP\_WH

## 2-WAY CASSETTE

&gt; R32 Ready



Slim, compact and lightweight, the 2-Way Cassette has been designed to fit easily and discreetly into any room interior.

CAPACITY	SOUND PRESSURE LEVEL
0.8HP < 6HP	30dB(A)

## OUTDOOR UNITS COMPATIBILITY



## LOCAL CONTROLS



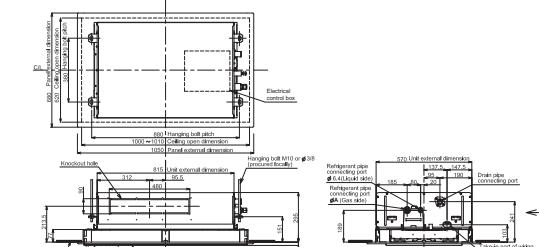
## Features

Model name	MMU-	UP0071WH-E	UP0091WH-E	UP0121WH-E	UP0151WH-E	UP0181WH-E	UP0241WH-E	UP0271WH-E	UP0301WH-E	UP0361WH-E	UP0481WH-E	UP0561WH-E
Capacity code	HP	0.8	1	1.3	1.7	2	2.5	3	3.2	4	5	6
Cooling capacity	kW	2.2	2.8	3.6	4.5	5.6	7.1	8.0	9.0	11.2	14.0	16.0
Heating capacity	kW	2.5	3.2	4.0	5.0	6.3	8.0	9.0	10.0	12.5	16.0	18.0
Electrical characteristics	Power supply											
	Running current	A	0.21	0.21	0.21	0.21	0.28	0.37	0.37	0.43	0.50	0.57
	Power consumption	kW	0.024	0.024	0.024	0.026	0.034	0.045	0.045	0.055	0.081	0.091
	Starting current	A	0.31	0.31	0.31	0.33	0.42	0.57	0.57	0.65	0.76	0.85
Appearance	Main unit											
	Model	RBC-UW283PG(W)-E										
	Ceiling panel	Panel colour										
Outer dimension	Main unit	HxLxP mm		295x815x570				345x1180x570			345x1600x570	
	Ceiling panel	HxLxP mm		20x1050x680				20x1415x680			20x1835x680	
Total weight	Main unit	kg	18	18	18	18	26	26	26	35	35	35
	Ceiling panel	kg	10	10	10	10	14	14	14	14	14	14
Heat exchanger								Finned tube				
Soundproof / Heat-insulating material								Non-flammable insulation				
	Fan							Centrifugal fan				
Fan unit	Standard air flow (High/Mid/Low)	m³/h	558/498/450		600/534/450	900/810/618	1050/840/738	1260/900/780	1740/1434/1182	1800/1482/1230	2040/1578/1320	
	Motor output	W		60				94			139	
Sound pressure level (High/Mid/Low)	dB(A)	34/32/30		35/33/30		38/35/33	40/37/34	42/39/36	43/40/37	46/42/39		
Sound power level	dB(A)	49/47/45		50/48/45		53/50/48	55/52/49	57/54/51	58/55/52	61/57/54		
Air filter								Standard filter (Long life filter)				
Controller								Remote controller				
Connecting pipe	Gas pipe	mm	3/8"	3/8"	3/8"	1/2"	1/2"	5/8"	5/8"	5/8"	5/8"	5/8"
	Liquid pipe	mm	1/4"	1/4"	1/4"	1/4"	1/4"	3/8"	3/8"	3/8"	3/8"	3/8"
	Drain port (Nominal dia.)	mm						25 (Polyvinyl chloride tube)				

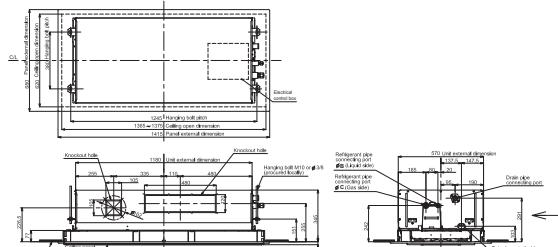
## Drawings

Unit: mm

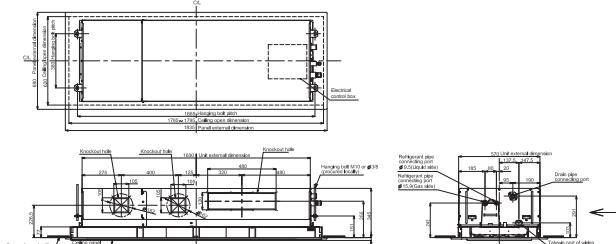
MMU-UP0071WH-E to MMU-UP151WH-E



MMU-UP181WH-E to MMU-UP301WH-E



MMU-UP0361WH-E to MMU-UP0561WH-E

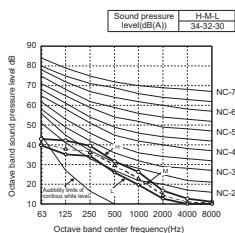


## 2-WAY CASSETTE

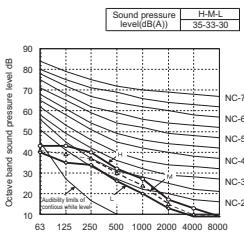
## Sound pressure levels

Unit: dB(A)

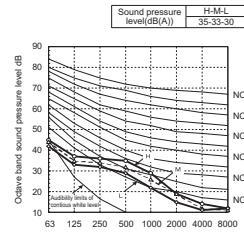
MMU-UP0071WH-E, UP0091WH-E, UP0121WH-E



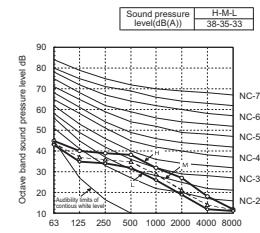
MMU-UP0151WH-E



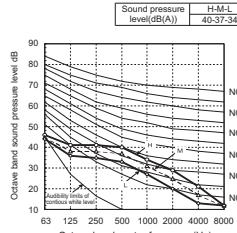
MMU-UP0181WH-E



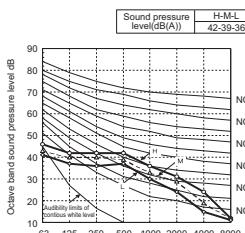
MMU-UP0241WH-E, UP0271WH-E



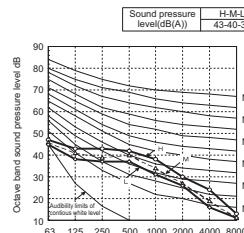
MMU-UP0301WH-E



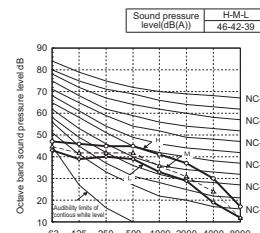
MMU-UP0361WH-E



MMU-UP0481WH-E



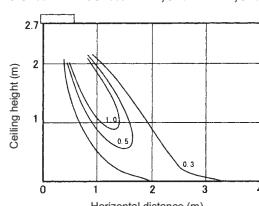
MMU-UP0561WH-E



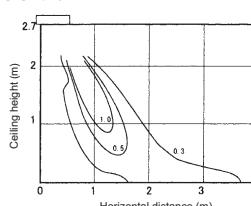
## Air diffusion

Unit: m/s

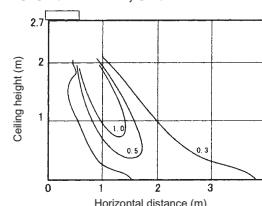
MMU-UP0071WH-E/UP0091WH-E, UP0121WH-E, UP0151WH-E



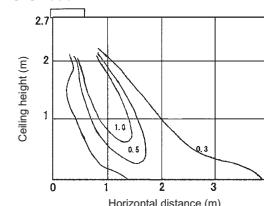
MMU-UP0181WH-E



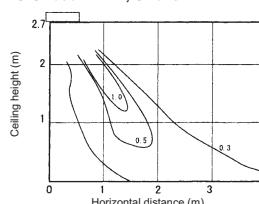
MMU-UP0241WH-E, UP0271WH-E



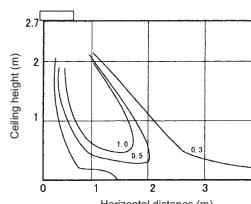
MMU-UP0301WH-E



MMU-UP0361WH-E, UP0481WH-E

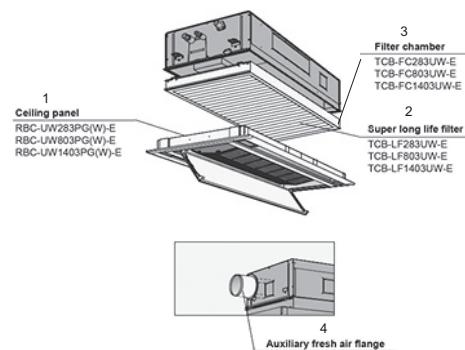


MMU-UP0561WH-E



## Accessories

No	Part name	Model name	Applied model	Notes	Remarks
1	Ceiling panel	RBC-UW283PG(W)-E	MMU-UP0071 to 0151WH	Required accessory	
		RBC-UW803PG(W)-E	MMU-UP0181 to 0301WH		
		RBC-UW1403PG(W)-E	MMU-UP0361 to 0561WH		
2	Super long life filter	TBC-LF283UW-E	MMU-UP0071 to 0151WH	Dust collecting effect: 50% (Weight method)	Use with TBC-FC283UW-E RBC-UW283PG(W)-E RBC-UW803PG(W)-E RBC-UW1403PG(W)-E
		TBC-LF803UW-E	MMU-UP0181 to 0301WH		Use with TBC-FC803UW-E
		TBC-LF1403UW-E	MMU-UP0361 to 0561WH		Use with TBC-FC1403UW-E
3	Filter chamber	TBC-FC283UW-E	MMU-UP0071 to 0151WH	For super long life filter	
		TBC-FC803UW-E	MMU-UP0181 to 0301WH		
		TBC-FC1403UW-E	MMU-UP0361 to 0561WH		
4	Auxiliary fresh air flange	TBC-FF151US-E	MMU-UP0071 to 0561WH	For fresh air intake by using the knockout hole of indoor unit.	



## 2-way cassette connectors

CN32	CN60	CN61	CN70	CN73	CN80
Additional ventilation control from remote control	Operation status signal output (cooling, heating, fan, defrost, thermo-on)	External On/Off, operation output and alarm output	Warning symbol on remote control based on signal input. No IDU thermo off.	Forced IDU thermo-off based on signal input	Forced IDU thermo-off and IDU lock based on signal input
*	*	*	*	*	*

# MMU-UP\_YHP

## 1-WAY CASSETTE

&gt;R32 Ready



Toshiba's innovative slim-line 1-Way Cassette is simple to install and suitable for small areas, such as hotels, offices and reception rooms.

CAPACITY	SOUND PRESSURE LEVEL
0.3 HP < 3 HP	25dB(A)

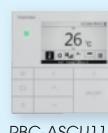
## OUTDOOR UNITS COMPATIBILITY

Side Blow,  
MINI-SMMS &  
MINI SMMS-eSMMS-e &  
SHRM-e

## LOCAL CONTROLS



RBC-AX33UYP-E

RBC-ASCU11-E  
RBC-AMTU31-E  
RBC-AMSU52-E  
RBC-AWSU52-E

## Features

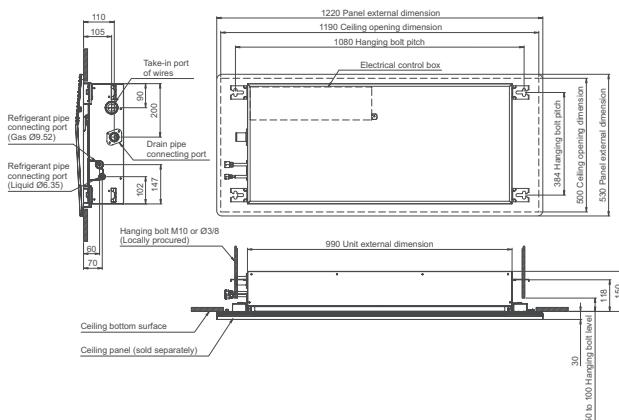
## PRELIMINARY DATA

Model name	MMU-	UP0031YHP-E	UP0051YHP-E	UP0071YHP-E	UP0091YHP-E	UP0121YHP-E	UP0151YHP-E	UP0181YHP-E	UP0241YHP-E	UP0271YHP-E	
Capacity code	HP	0.3	0.6	0.8	1	1.3	1.7	2	2.5	3	
Cooling capacity	kW	0.9	1.7	2.2	2.8	3.6	4.5	5.6	7.1	8	
Heating capacity	kW	1.3	1.9	2.5	3.2	4	5	6.3	8	9	
Electrical characteristics											
Power supply		1 phase 50Hz 220-240V (Separate power supply for indoor units is required.)									
Running current	A	0.15	0.15	0.18	0.19	0.20	0.24	0.26	0.34	0.41	
Power consumption	kW	0.015	0.015	0.017	0.018	0.018	0.025	0.027	0.042	0.05	
Starting current	A	0.20	0.20	0.22	0.23	0.24	0.28	0.30	0.38	0.45	
Appearance	Main unit	Zinc hot dipping steel plate									
Ceiling panel	Model	RBC-UY32P-E									
Panel colour	Gran white (Munsell 5PB9/1)										
Outer dimension	Main unit	HxLxP mm	150x990x450								
	Ceiling panel	HxLxP mm	30x1220x530								
Total weight	Main unit	kg	14								
	Ceiling panel	kg	4								
Heat exchanger	Finned tube										
Sound proof / Heat-insulating material	Non-flammable insulation										
Fan unit	Fan	Cross flow fan									
	Standard air flow (High/Mid/Low)	m³/h	480/370/270	480/370/270	500/390/270	520/410/290	540/420/290	750/630/500	800/650/500	940/760/600	1000/860/720
	Motor output	W	30	30	30	30	30	42	42	59	59
Sound pressure level (High/Mid/Low)	dB(A)	37/33/25	37/33/25	38/34/25	39/35/26	40/36/26	39/36/33	40/37/33	46/42/37	47/44/41	
Sound power level	dB(A)	52/48/40	52/48/40	53/49/40	54/50/41	55/51/44	54/51/48	55/52/48	61/57/52	62/59/56	
Air filter	Standard filter (Long life filter) / Air purifier available as an option										
Controller	Remote controller										
Connecting pipe	Gas pipe	mm	3/8"								
	Liquid pipe	mm	1/4"								
	Drain port (Nominal dia.)	mm	25 (Polyvinyl chloride tube)								

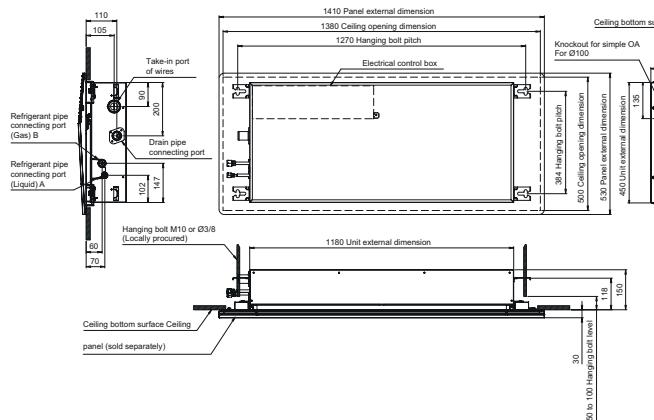
## Drawings

Unit: mm

## MMU-UP0031YHP-E to MMU-UP0121YHP-E

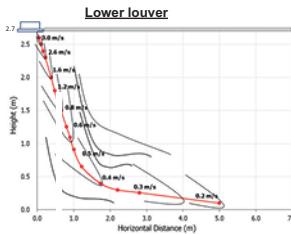


## MMU-UP0151YHP-E to MMU-UP0271YHP-E

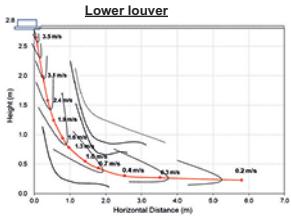


**1-WAY CASSETTE****Air diffusion**

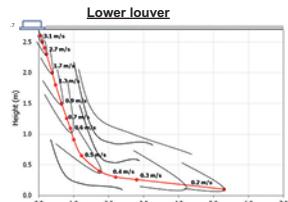
MMU-UP0031-YHP-E/ MMU-UP0051YHP-E



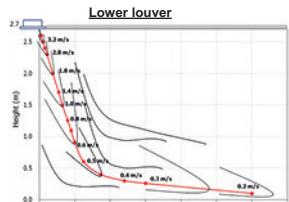
MMU-UP00151YHP-E



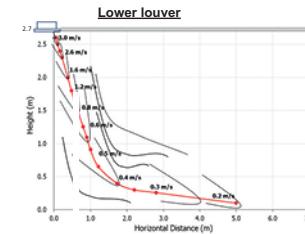
MMU-UP0071YHP-E



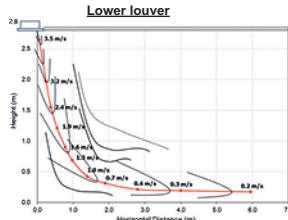
MMU-UP0091YHP-E



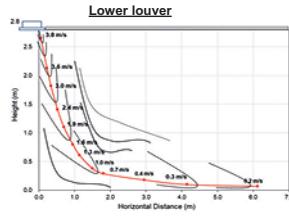
MMU-UP0121YHP-E



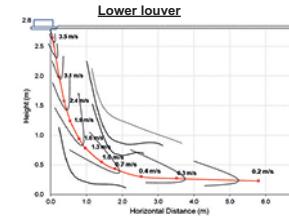
MMU-UP00181YHP-E



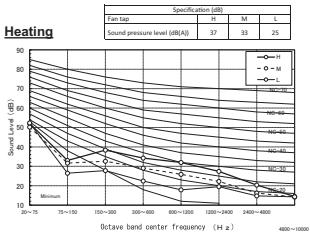
MMU-UP00241YHP-E



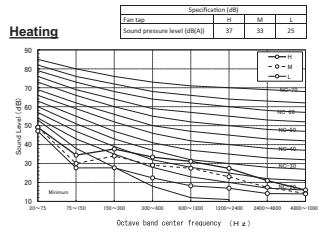
MMU-UP00271YHP-E

**Sound pressure levels**

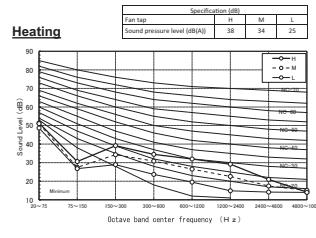
MMU-UP0031YHP-E



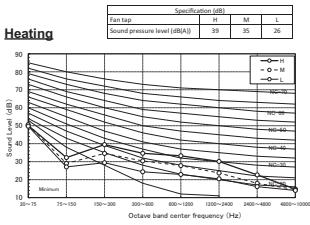
MMU-UP0051YHP-E



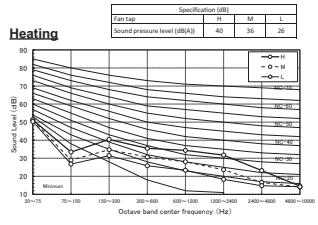
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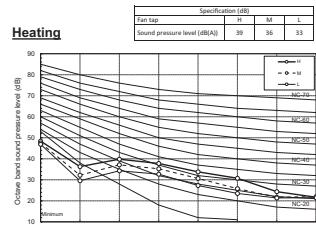
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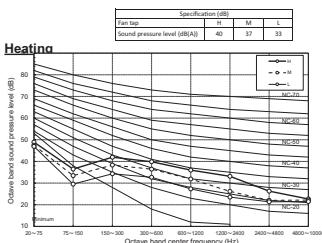
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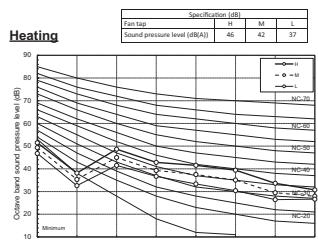
MMU-UP0151YHP-E



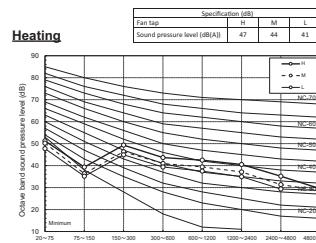
MMU-UP0181YHP-E



MMU-UP0241YHP-E



MMU-UP0271YHP-E

**Accessories**

Type	Model name	Applied model	Feature	Remarks
Panel	RBC-UY32P-E	MMU-UP_1YHP-E/TR - sizes 3 to 12	1-way cassette panel without receiver	Required accessory
	RBC-UY42P-E			Required accessory
Air purifier kit	TCB-EAPC1UYHP-E	MMU-UP-1YHP-E	Set of Plasma Air Purifier, Dust sensor, Air quality indicator and Wireless receiver	
Occupancy sensor	TCB-SIR41UYP-E		Occupancy sensor for 1-way cassette	Cannot match with wireless receiver kit
Wireless receiver kit	RBC-AX33UYP-E		Wireless RC kit for 1-way cassette	Cannot match with occupancy sensor
Auxiliary fresh air flange	TCB-FF101URE2	MMU-UP_1YHP-E - sizes 15 to 27	For easy fresh air intake by using knockout out hole of indoor unit (dia.=100mm)	

**1-way cassette connectors**

CN32	CN60	CN61	CN70	CN73	CN80
Additional ventilation control from remote control	Operation status signal output (cooling, heating, fan, defrost thermo-on)	External On/Off, operation output and alarm output	Warning symbol on remote control based on signal input. No IDU thermo off	Forced IDU thermo-off based on signal input	Forced IDU thermo-off and IDU lock based on signal input
*	TCB-PCUC2E pcb needed	*	TCB-PCUC2E pcb needed	TCB-PCUC2E pcb needed	TCB-PCUC2E pcb needed



# MMD-UP\_BHP

## STANDARD DUCT

&gt;R32 Ready



Whatever the shape of the room, this flexible model ensures a uniform temperature and air distribution for optimal end user comfort.

CAPACITY	SOUND PRESSURE LEVEL
0.6HP < 6HP	23dB(A)

## OUTDOOR UNITS COMPATIBILITY

Side Blow,  
MINI-SMMS &  
MINI SMMS-eSMMS-u &  
SHRM AdvanceSMMS-e &  
SHRM-e

## LOCAL CONTROLS



RBC-AXU31-E

RBC-ASCU11-E  
RBC-AMTU31-E  
RBC-AMS52-E  
RBC-AWS52-E

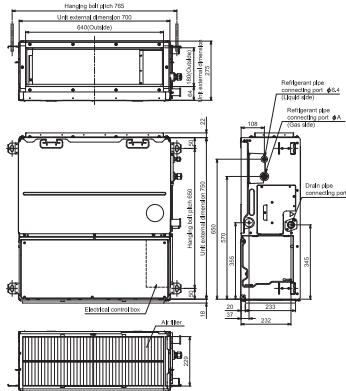
## Features

Model name	MMD- UP0051BHP-E UP0071BHP-E UP0091BHP-E UP0121BHP-E UP0151BHP-E UP0181BHP-E UP0241BHP-E UP0271BHP-E UP0301BHP-E UP0361BHP-E UP0481BHP-E UP0561BHP-E																									
Capacity code	HP	0.6	0.8	1	1.3	1.7	2	2.5	3	3.2	4	5	6													
Cooling capacity	kW	1.7	2.2	2.8	3.6	4.5	5.6	7.1	8.0	9.0	11.2	14.0	16.0													
Heating capacity	kW	1.9	2.5	3.2	4.0	5.0	6.3	8.0	9.0	10.0	12.5	16.0	18.0													
Power supply												1 phase 50 Hz 220-240 V (Separate power supply for indoor units is required.)														
Electrical characteristics	Running current	50 Hz	A	0.35	0.35	0.38	0.38	0.70	0.70	0.80	0.80	0.95	1.29	1.70	1.70											
	Power consumption		kW	0.055	0.055	0.060	0.060	0.110	0.110	0.135	0.135	0.160	0.220	0.290	0.290											
Starting current												A		0.55	0.55	0.58	0.58	1.10	1.10	1.20	1.20	1.35	1.35	2.09	2.50	2.50
Appearance												Zinc hot dipping steel plate														
Dimensions	HxLxP	mm											275x700x750		275x1000x750		275x1400x750									
Total weight	kg	23											30		40											
Heat exchanger		Finned tube																								
Soundproof / Heat-insulating material		Polyethylene foam																								
Fan unit	Fan		Centrifugal fan																							
	Standard air flow (High / Mid. / Low)	m³/h	540/450/360	540/450/360	570/480/390	570/480/390	920/660/540	920/660/540	1320/1090/870	1320/1090/870	1450/1200/960	1920/1620/1380	2350/1920/1500	2350/1920/1500												
Fan unit	Motor output	W	150											250												
	External static pressure (factory default)	Pa	30											40		50										
Fan unit	External static pressure	Pa	30 - 40 - 50 - 65 - 80 - 100 - 120 - 150																							
Sound pressure level (High / Mid. / Low)												dB(A)		29/26/23	30/26/23	33/29/25	33/30/27	36/31/27	36/34/31	40/36/33						
Sound power level (High / Mid. / Low)												dB(A)		51/46/43	51/46/43	54/51/46	54/51/47	58/51/47	58/55/51	63/58/54						
Air filter		Standard filter (Long life filter)																								
Controller		Remote controller																								
Connecting pipe	Gas side	inch	3/8"											1/2"		5/8"										
	Liquid side	inch	1/4"											1/4"		3/8"										
Drain port (Nominal dia.)												mm		25 (Polyvinyl chloride tube)												

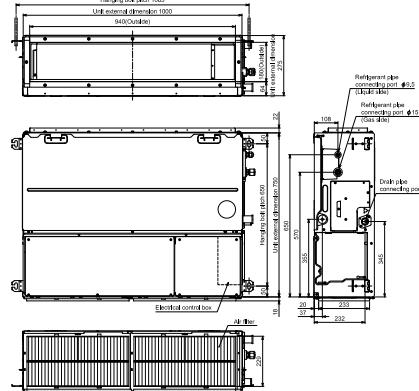
## Drawings

Unit: mm

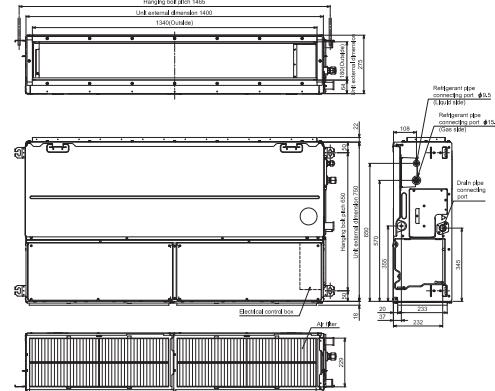
## MMD-UP0051BHP-E to MMD-UP0181BHP-E



## MMD-UP0241BHP-E to MMD-UP0301BHP-E



## MMD-UP0361BHP-E to MMD-UP0561BHP-E

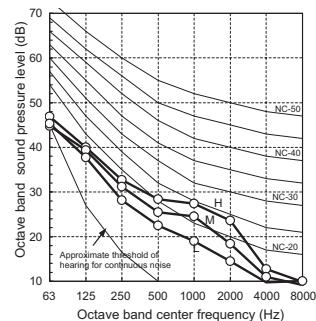


## STANDARD DUCT

## Sound pressure levels

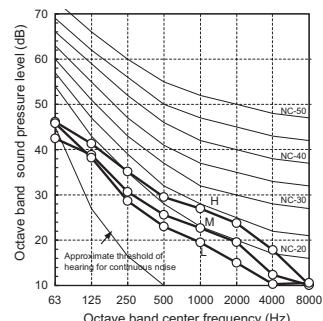
MMD-UP0051BHP-E, MMD-UP0071BHP-E

External static pressure 80 Pa			
FAN tap	H	M	L
Sound pressure level (dB(A))	33	30	27



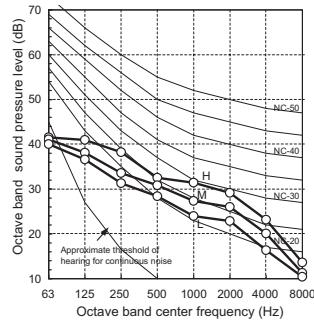
MMD-UP0091BHP-E, MMD-UP0121BHP-E

External static pressure 80 Pa			
FAN tap	H	M	L
Sound pressure level (dB(A))	34	30	28



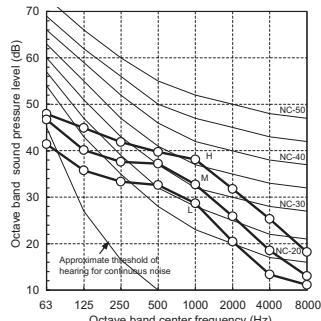
MMD-UP0151BHP-E, MMD-UP0181BHP-E

External static pressure 80 Pa			
FAN tap	H	M	L
Sound pressure level (dB(A))	37	33	31



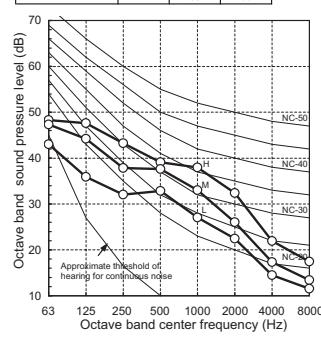
MMD-UP0241BHP-E, MMD-UP0271BHP-E

External static pressure 80 Pa			
FAN tap	H	M	L
Sound pressure level (dB(A))	42	38	33



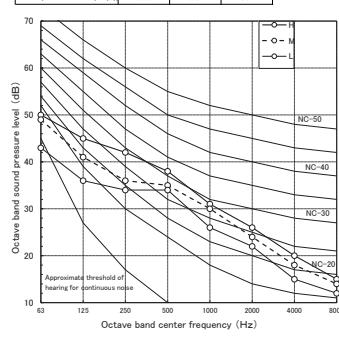
MMD-UP0301BHP-E

External static pressure 80 Pa			
FAN tap	H	M	L
Sound pressure level (dB(A))	42	39	33



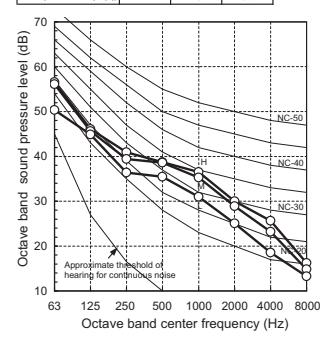
MMD-UP0361BHP-E

External static pressure 80 Pa			
FAN tap	H	M	L
Sound pressure level (dB(A))	38	36	33



MMD-UP0481BHP-E, MMD-UP0561BHP-E

External static pressure 80 Pa			
FAN tap	H	M	L
Sound pressure level (dB(A))	41	40	36



## Accessories

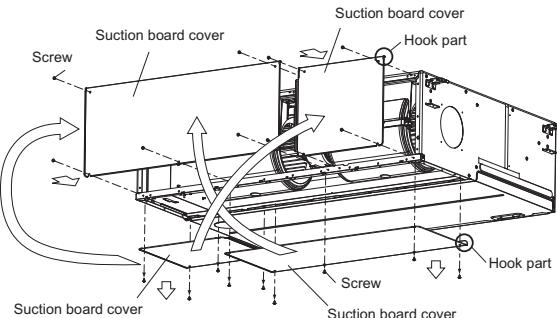
Type	Model name	Applied model	Appearance	Remarks
Spigot shaped flange	TCB-SF56C6BE	MMD-UP0051/0071/0091/0121/0151/0181BHP-E		263x694x175mm / Spigot diameter 200mm
	TCB-SF80C6BE	MMD-UP0241/0271/0301BHP-E		263x994x175mm / Spigot diameter 200mm
	TCB-SF160C6BE	MMD-UP0361/0481/0561BHP-E		263x1394x175mm / Spigot diameter 200mm

## Standard duct connectors

CN32	CN60	CN61	CN70	CN73	CN80
Additional ventilation control from remote control	Operation status signal output (cooling, heating, fan, defrost, thermo-on)	External On/Off, operation output and alarm output	Warning symbol on remote control based on signal input. No IDU thermo off.	Forced IDU thermo-off based on signal input	Forced IDU thermo-off and IDU lock based on signal input
*	*	*	*	*	*

## Installation flexibility

## Changing from back air intake to under air intake



# MMD-UP\_SPHY

## SLIM DUCT

**> R32 Ready**



Whether installed in a ceiling void or in a false ceiling, Toshiba Slim Duct offers the ultimate technology, with exceptional energy savings, high performance and easy installation.

CAPACITY	SOUND PRESSURE LEVEL
0.3 HP < 3 HP	25dB(A)

OUTDOOR UNITS COMPATIBILITY	LOCAL CONTROLS
 Side Blow, MINI-SMMS & MINI SMMS-e	 RBC-AXU31-E
 SMMS-u & SHRM Advance	 RBC-AMTU31-E
 SMMS-e & SHRM-e	 RBC-AMSU52-E
	 RBC-AWSU52-E

### Features

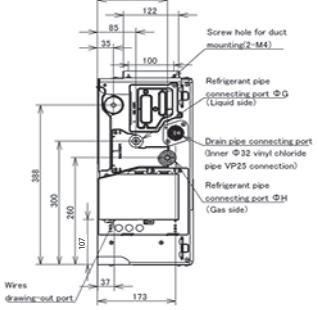
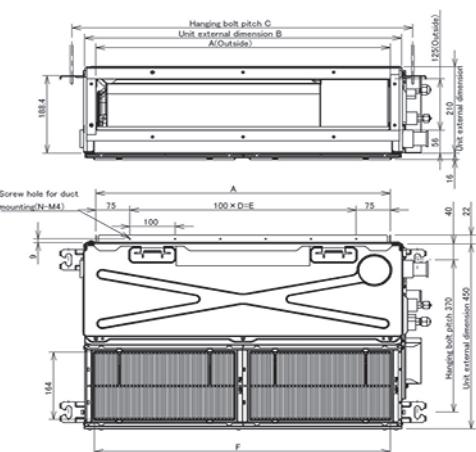
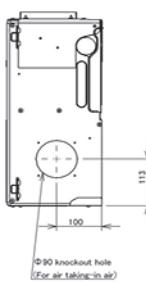
### PRELIMINARY DATA

Model name	MMD-	UP0031SPHY-E	UP0051SPHY-E	UP0071SPHY-E	UP0091SPHY-E	UP0121SPHY-E	UP0151SPHY-E	UP0181SPHY-E	UP0241SPHY-E	UP0271SPHY-E								
Capacity code	HP	0.3	0.6	0.8	1	1.3	1.5	2	2.5	3								
Cooling capacity	kW	0.9	1.7	2.2	2.8	3.6	4.5	5.6	7.1	8								
Heating capacity (1)	kW	1.0	1.9	2.5	3.2	4	5	6.3	8	9								
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Electrical characteristics	Power supply	1 phase 50 Hz 220-240 V																
	Running current 50Hz / 60Hz	A	0.34 / 0.36	0.36 / 0.37	0.40 / 0.42	0.42 / 0.44	0.44 / 0.46	0.47 / 0.49	0.53 / 0.56	0.69 / 0.73								
	Power consumption	kW	0.018	0.02	0.026	0.029	0.031	0.035	0.044	0.067								
	Starting current 50Hz/ 60Hz	A	0.60 / 0.63	0.62 / 0.65	0.69 / 0.73	0.73 / 0.77	0.77 / 0.81	0.82 / 0.86	0.92 / 0.97	1.21 / 1.27								
<hr/>																		
Appearance																		
Outer dimension	HxLxP	mm	210x700x450					210x900x450										
Total weight	kg	15					19			22								
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Heat exchanger																		
Soundproof / Heat-insulating material																		
Fan unit	Fan	Centrifugal fan (sirocco fan)																
	Standard air flow (H/M+/M/L+/L)	m³/h	410/390/370/ 360/350	450/430/410/ 390/380	540/500/460/ 430/400	570/530/500/ 450/420	600/550/520/ 470/440	690/660/640/ 590/550	780/760/730/ 690/650	1080/1010/950/ 900/860	1140/1060/980/ 940/910							
	Motor output	W	50					94										
<hr/>																		
External static pressure																		
Sound pressure level (H/M+/M/L+/L)	Under air intake	dB(A)	37/36/35/34/32	39/38/37/35/34	41/40/39/38/35	42/41/40/38/36	44/42/40/39/37	42/40/39/38/37	44/43/42/41/39	47/46/44/43/41	48/47/45/44/43							
	Back air intake	dB(A)	29/28/27/26/25	30/29/28/27/26	31/30/29/28/26	32/31/29/28/26	33/32/30/29/27	33/31/30/29/28	34/33/32/31/29	36/35/33/32/30	37/36/34/33/32							
<hr/>																		
Sound power level (H/M+/M/L+/L)																		
Air filter																		
Controller																		
Connecting pipe	Gas pipe	inch	3/8"	3/8"	3/8"	3/8"	3/8"	1/2"	1/2"	5/8"								
	Liquid pipe	inch	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	3/8"								
	Drain pipe (Outside dia.)	mm	25 (Polyvinyl chloride tube : External dia.32 Internal dia.25)															

### Drawings

Unit: mm

#### MMD-UP0031SPHY-E to MMD-UP0271SPHY-E



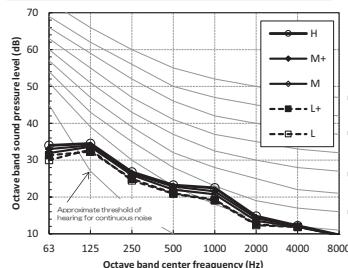
MMD-UP***1SPHY-E	003~012	015~018	024~027
A	650	850	1050
B	700	900	1100
C	770	970	1170
D	5	7	9
E	500	700	900
F	655	855	1055
G	6.4		
H	9.5	12.7	15.9

## SLIM DUCT

## Sound pressure levels

MMD-UP0031SPHY-E

	H	M+	M	I+	I
Sound Pressure Level (dBA)	29	28	27	26	25

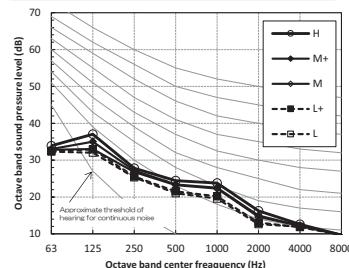


UP0051SPHY-E

	H	M+	M	I+	I
Sound Pressure Level (dBA)	30	29	28	27	26

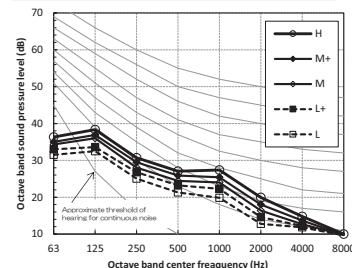
UP0051SPHY-E

	H	M+	M	I+	I
Sound Pressure Level (dBA)	30	29	28	27	26



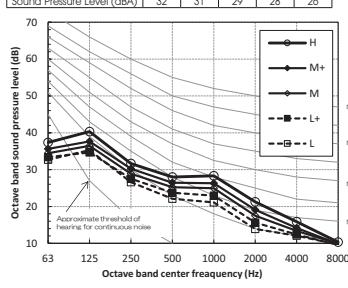
UP0071SPHY-E

	H	M+	M	I+	I
Sound Pressure Level (dBA)	31	30	29	28	26



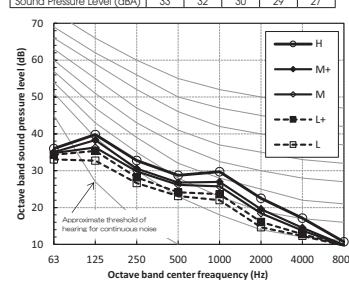
UP0091SPHY-E

	H	M+	M	I+	I
Sound Pressure Level (dBA)	32	31	29	28	26



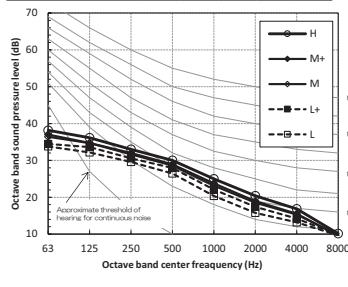
UP0121SPHY-E

	H	M+	M	I+	I
Sound Pressure Level (dBA)	33	32	30	29	27



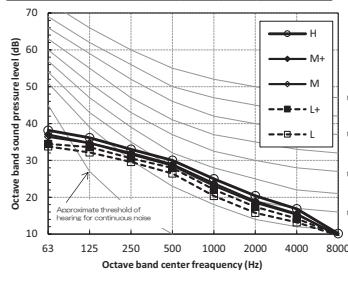
UP0151SPHY-E

	H	M+	M	I+	I
Sound Pressure Level (dBA)	33	31	30	29	28



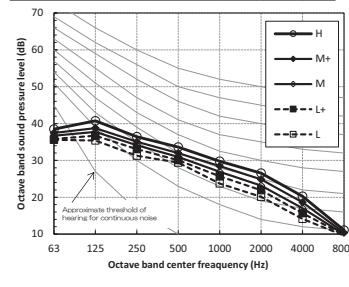
UP0181SPHY-E

	H	M+	M	I+	I
Sound Pressure Level (dBA)	34	33	32	31	29



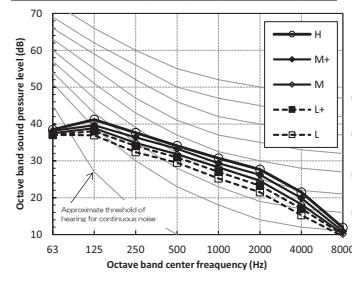
UP0241SPHY-E

	H	M+	M	I+	I
Sound Pressure Level (dBA)	36	35	33	32	30



UP0271SPHY-E

	H	M+	M	I+	I
Sound Pressure Level (dBA)	37	36	34	33	32



## Accessories

Part name	Model name	Applied model	Remarks
Auxiliary fresh air flange	TCB-FF101URE2	MMD-UP_1SPHY-E	For fresh air intake by using the knockout hole of indoor unit (dia.=100 mm)
3DW diffusor	TCB-TDL0141SDY-E	MMD-UP_1SPHY-E - sizes 3 to 12	Motorized horizontal louver controlled by remotes
	TCB-TDL0181SDY-E	MMD-UP_1SPHY-E - sizes 15 to 18	
	TCB-TDL0271SDY-E	MMD-UP_1SPHY-E - sizes 24 to 27	

## 3DW DIFFUSOR Physical data

Model name	TCB-TDL0141SDY-E	TCB-TDL0181SDY-E	TCB-TDL0271SDY-E
Description	Motorized horizontal louver for slim duct		
Compatible with slim duct size	MMD-UP0xx1SPHY-E	003 to 012	015 & 018
Dimensions (H x L x D) *: from panel surface	mm	180 x 810 x 88 (*99)	180 x 1010 x 88 (*99)
Distance from duct to louver	min	91mm	
	max	1000mm	
Pressure lost	Pa	5	
Color	Mansell	5PB9/1	
Remote controller needed to operate	RAL (approximation)	250 92 05	
	Horizontal louver	RBC-ASCU11-E, RBC-AMTU31-E, RBC-AMSU51E/ES/EN	



&gt; NEW

## Slim duct connectors

CN32	CN60	CN61	CN70	CN73	CN80
Additional ventilation control from remote control	Operation status signal output (cooling, heating, fan, defrost, thermo-on)	External On/Off, operation output and alarm output	Warning symbol on remote control based on signal input. No IDU thermo off	Forced IDU thermo-off based on signal input	Forced IDU thermo-off and IDU lock based on signal input
*	TCB-PCUC2E pcb needed	*	TCB-PCUC2E pcb needed	TCB-PCUC2E pcb needed	TCB-PCUC2E pcb needed

MMD-UP\_HP

HIGH STATIC PRESSURE DUCT

&gt;R32 Ready



This is Toshiba's most powerful ducted unit delivering air flows up to 4,800 m<sup>3</sup>/h with an external static pressure up to 250 Pa.

CAPACITY	SOUND PRESSURE LEVEL
2 HP < 10 HP	37dB(A)

## OUTDOOR UNITS COMPATIBILITY

Side Blow,  
MINI-SMMS &  
Mini SMMS-eSMMS-u &  
SHRM AdvanceSMMS-e &  
SHRM-e

## LOCAL CONTROLS

RBC-ASCU11-E  
RBC-AMTU31-E  
RBC-AMSU52-E  
RBC-AWSU52-E

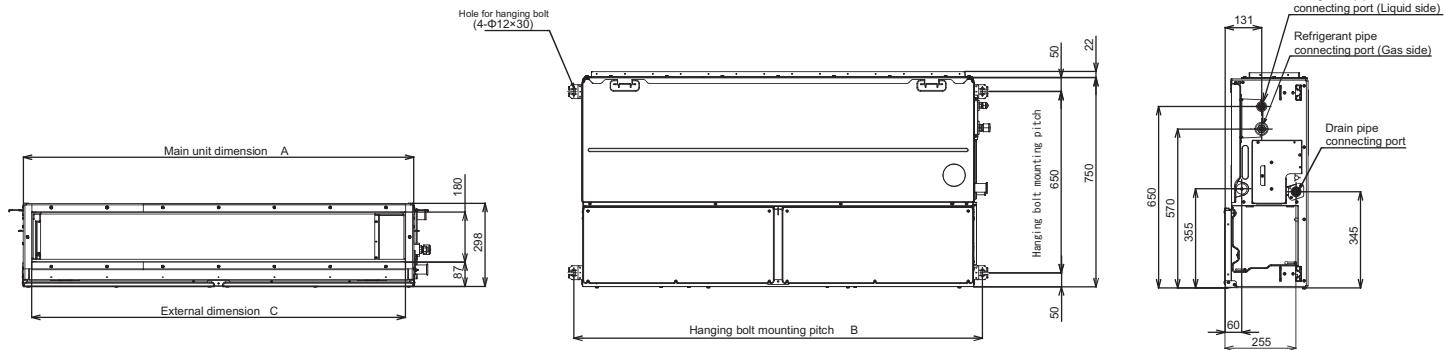
## Features

Model name	MMD-	UP0181HP-E	UP0241HP-E	UP0271HP-E	UP0361HP-E	UP0481HP-E	UP0561HP-E	UP0721HP-E1	UP0961HP-E1
Capacity code		2	2.5	3	4	5	6	8	10
Cooling capacity	kW	5.6	7.1	8	11.2	14	16	22.4	28
Heating capacity	kW	6.3	8	9	12.5	16	18	25	31.5
Electrical characteristics	Power supply				1 phase 50Hz 230V(220V-240V)				
	Running current (A)	0.82	0.92	1.16	1.39	1.81	2.48	2.83	3.77
	Power consumption (kW)	0.125	0.140	0.190	0.230	0.300	0.400	0.540	0.790
	Starting current (A)	1.12	1.22	1.46	1.89	2.41	3.08	7.80	7.80
Appearance					Zinc hot dipping steel plate				
Dimensions	HxLxP mm		298x1000x750			298x1400x750		448x1400x900	
Total weight	kg		34			43		97	
Heat exchanger					Finned tube				
Soundproof / Heat-insulating material					Polyethylene foam				
Fan unit	Fan				Centrifugal fan				
	Standard air flow (High/Mid./Low) m <sup>3</sup> /h	1100/990/900	1200/1050/960	1500/1350/1200	1920/1560/1340	2340/1980/1695	2760/2340/1920	3800/3200/2500	4800/4200/3500
	Motor output W		250			350		250	
	External static pressure (factory setting) Pa			100				150	
	External static pressure Pa			50-75-125-150-175-200 (7steps)			50-83-117-150-183-217-250 (7steps)		
Sound pressure level (High/Med./Low)	dB(A)	37/33/31	38/34/31	43/41/38	41/37/34	44/41/38	46/44/41	44/40/36	46/42/38
Sound power level (High/Med./Low)	dB(A)	60/54/50	60/55/51	65/63/60	62/57/53	65/62/58	68/65/62	79/75/71	81/77/73
Controller					Remote controller				
Air filter			Sold separately (TCB-LK801D-E)		Sold separately (TCB-LK1401D-E)		Sold separately (TCB-LK2801DP-E)		
Drain pump				Included			Sold separately (TCB-DP40DPE)		
Connecting pipe	Gas side inch	1/2"	5/8"	5/8"	5/8"	5/8"	5/8"	7/8"	7/8"
	Liquid side inch	1/4"	3/8"	3/8"	3/8"	3/8"	3/8"	1/2"	1/2"
	Drain port mm				25 (Polyvinyl chloride tube)				

## Drawings

Unit: mm

## MMD-UP0181HP-E to MMD-UP0561HP-E



	A	B	C	D
MMD-UP0181-0271HP-E	1000	1065	940	500
MMD-UP0361-0561HP-E	1400	1465	1340	700





The simple, yet elegant design helps to create a pleasant and relaxing environment, quickly conditioning the room air to the desired temperature.

CAPACITY	SOUND PRESSURE LEVEL
1.7 HP > 6 HP	28 dB(A)

## OUTDOOR UNITS COMPATIBILITY

Side Blow,  
MINI-SMMS &  
MINI SMMS-eSMMS-e &  
SHRM-e

## LOCAL CONTROLS

RBC-ASCU11-E  
RBC-AMTU31-E  
RBC-AMS52-E  
RBC-AWS52-E

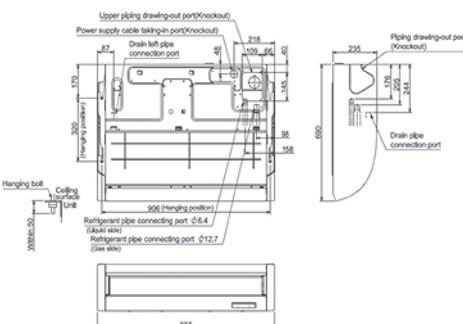
## Features

Model name	MMC-	UP0151HP-E	UP0181HP-E	UP0241HP-E	UP0271HP-E	UP0361HP-E	UP0481HP-E	UP0561HP-E
Capacity code	HP	1,7	2	2,5	3	4	5	6
Cooling capacity	kW	4,5	5,6	7,1	8	11,2	14	16
Heating capacity	kW	5	6,3	8	9	12,5	16	18
Electrical characteristics	Power supply	kW			1 phase 50Hz 230V (220-240V)			
	Running current	A	0.38	0.39	0.68	0.68	0.80	1.03
	Power consumption H	kW	0.033	0.034	0.067	0.067	0.083	0.111
	Starting current	A	0.54	0.55	0.97	0.97	1.15	1.49
Appearance					Pure White (Munsell N9.1)			
Dimensions	HxLxP	mm	235x952x690		235x1270x690		235x1586x690	
Total weight	kg		24		30		39	
Heat exchanger					Finned tube			
Soundproof/Heat-insulating material					Polyethylene foam			
Fan unit					Centrifugal fan (Sirocco fan)			
Standard air flow (High/Mid./Low)	m³/h	840/690/540	960/720/540	1440/1020/750	1440/1020/750	1860/1350/1020	1860/1530/1200	2040/1650/1260
Motor output	W			94			139	
Sound pressure level (High/Mid./Low)	dBA	36/34/28	37/35/28	41/36/29	41/36/29	44/38/32	44/41/35	46/42/36
Sound power level (High/Mid./Low)	dBA	51/49/43	52/50/43	56/51/44	56/51/44	59/53/47	59/56/50	61/57/51
Air filter					Standard filter (Long life filter)			
Controller					Remote controller			
Room thermostat					Attached			
Connecting pipe	Gas side	inch	1/2"	1/2"	5/8"	5/8"	5/8"	5/8"
	Liquid side	inch	1/4"	1/4"	3/8"	3/8"	3/8"	3/8"
	Drain port	mm			20 (Polyvinyl chloride tube)			

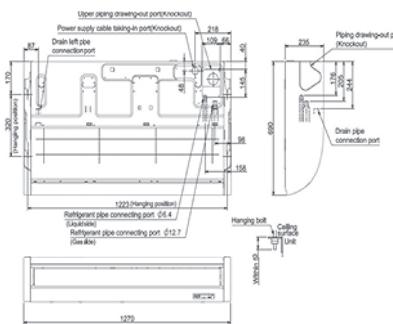
## Drawings

Unit: mm

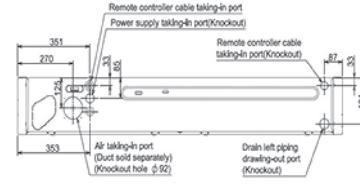
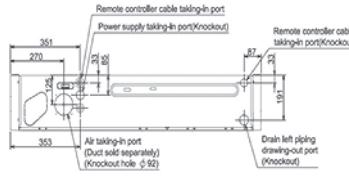
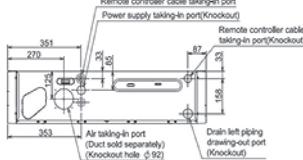
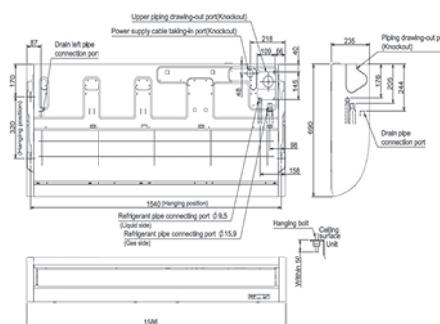
MMC-UP0151HP-E, MMC-UP0181HP-E



MMC-UP0241HP-E, MMC-UP0271HP-E



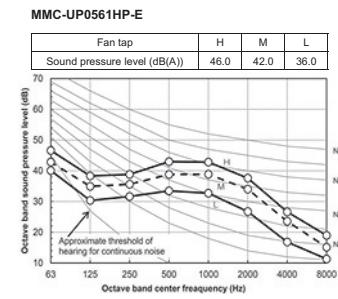
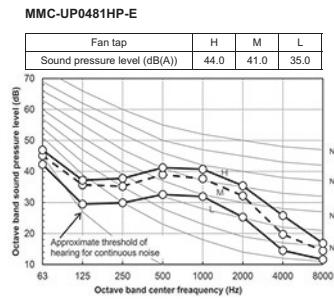
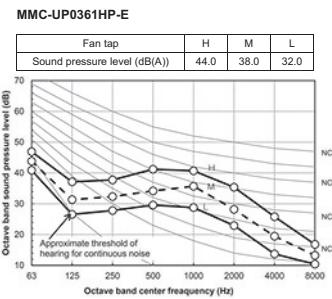
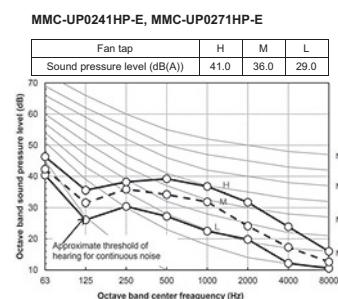
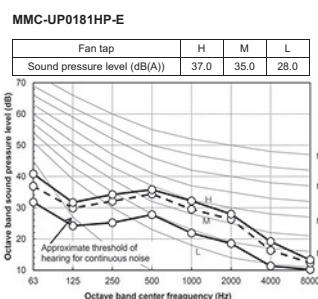
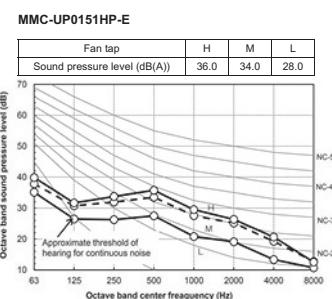
MMC-UP0361HP-E to MMC-UP0561HP-E



## UNDER CEILING

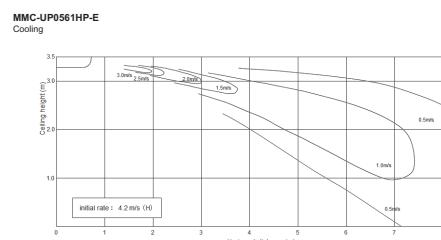
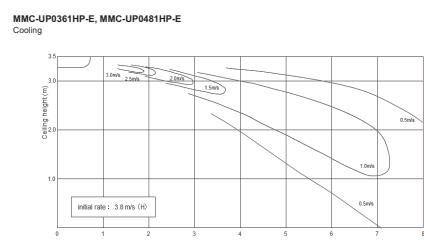
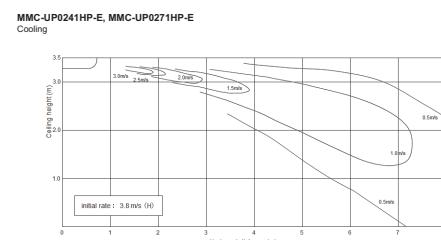
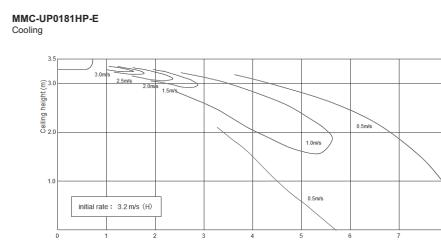
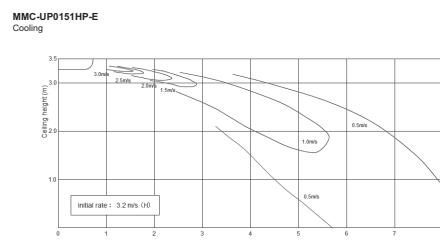
## Sound pressure levels

Unit: dB(A)



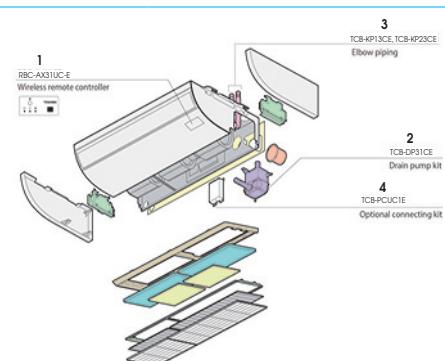
## Air diffusion

Unit: m/s



## Accessories

No	Part name	Model name	Applied model	Feature	Remark
1	Wireless Remote Controller kit	RBC-AXU31C-E	MMC-UP0151 to 0561HP-E	-	
2	Drain pump kit	TCB-DP31CE	MMC-UP0151 to 0561HP-E	Antibacterial glass is built into drain pump kit	
3	Elbow piping kit	TCB-KP14CPE	MMC-UP0151 to 0181HP-E	It is necessary for installation of drain pump kit Use with TCB-DP31CE	
		TCB-KP24CPE	MMC-UP0241 to 0561HP-E		
4	Option connecting kit	TCB-PCUC2E	MMC-UP0151 to 0561HP-E	For external I/O signal without local relay preparation	



## Ceiling connectors

CN32	CN60	CN61	CN70	CN73	CN80
Additional ventilation control from remote control	Operation status signal output (cooling, heating, fan, defrost, thermo-on)	External On/Off, operation output and alarm output	Warning symbol on remote control based on signal input. No IDU thermo off.	Forced IDU thermo-off based on signal input	Forced IDU thermo-off and IDU lock based on signal input
*	TCB-PCUC2E pcb needed	*	TCB-PCUC2E pcb needed	TCB-PCUC2E pcb needed	TCB-PCUC2E pcb needed

**MML-UP\_NH**  
**BI-FLOW CONSOLE**


Innovative and compact unit to be installed on the floor and in low wall applications, fits perfectly under the window sills or in a low ceiling attic.

CAPACITY	SOUND PRESSURE LEVEL
0.8 HP < 2 HP	26dB(A)

OUTDOOR UNITS COMPATIBILITY				LOCAL CONTROLS	
				Included	RBC-ASCU11-E RBC-AMTU31-E RBC-AMS52-E RBC-AWS52-E

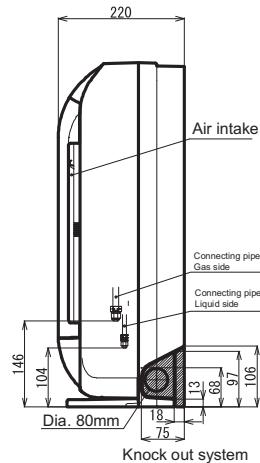
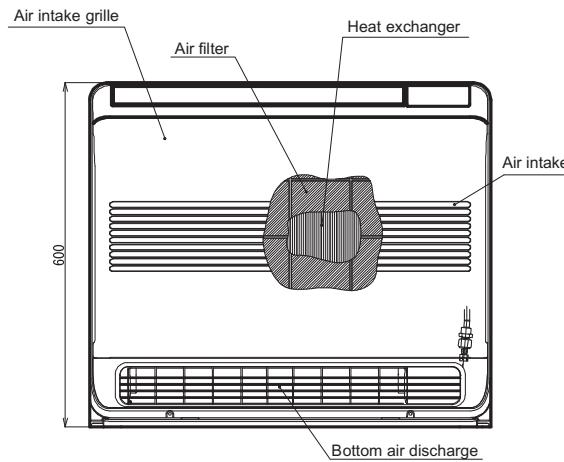
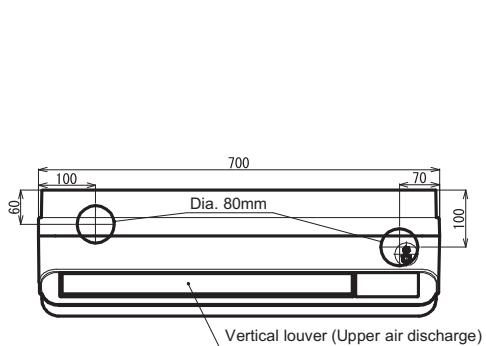
## Features

Model name	MML-	UP0071NH-E	UP0091NH-E	UP0121NH-E	UP0151NH-E	UP0181NH-E		
Capacity code	HP	0.8	1	1.3	1.5	2		
Cooling capacity	kW	2.2	2.8	3.6	4.5	5.6		
Heating capacity	kW	2.5	3.2	4	5	6.3		
Electrical characteristics		Power supply 1 phase 50Hz 220-240V (Separate power supply for indoor units is required.)						
Running current	A	0.20	0.20	0.23	0.29	0.42		
Power consumption	kW	0.021	0.021	0.025	0.034	0.052		
Starting current	A	0.26	0.26	0.30	0.38	0.55		
Appearance		Air intake grille and side panel Moon white (Munsell : 2.5GY 9.0/0.5)						
Discharge-grille			Moon white (Munsell : 2.5GY 9.0/0.5)					
Bottom surface			Moon white (Munsell : 2.5GY 9.0/0.5)					
Dimensions	HxLxP mm			600x700x220				
Weight	kg			17				
Heat exchanger			Finned tube					
Soundproof / Heat-insulating material			Foamed polystyrene. Polyethylene					
Fan			Turbo fan					
Motor output (W)			41					
Standard air flow (High/Mid./Low) (m³/h)		510/366/282	510/366/282	552/408/324	624/468/384	726/528/426		
Sound pressure level (High/Mid./Low) dB(A)		38 / 32 / 26	38 / 32 / 26	40 / 34 / 29	43 / 37 / 31	47 / 40 / 34		
Sound power level (High/Mid./Low) dB(A)		53 / 47 / 41	53 / 47 / 41	55 / 49 / 44	58 / 52 / 46	62 / 55 / 49		
Air filter			Standard filter attached					
Controller			Wireless remote controller (packed with indoor unit)					
Connecting pipe	Gas side inch	3/8"	3/8"	3/8"	1/2"	1/2"		
	Liquid side inch	1/4"	1/4"	1/4"	1/4"	1/4"		
	Drain port (Nominal dia.) mm			16 (Polypropylene tube)				

## Drawings

Unit: mm

### All models

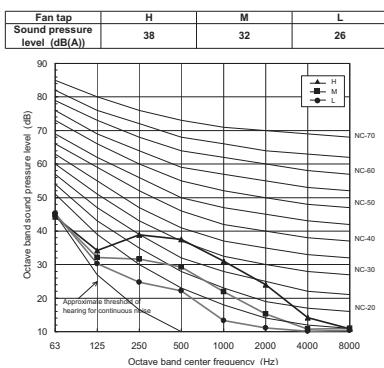


## BI-FLOW CONSOLE

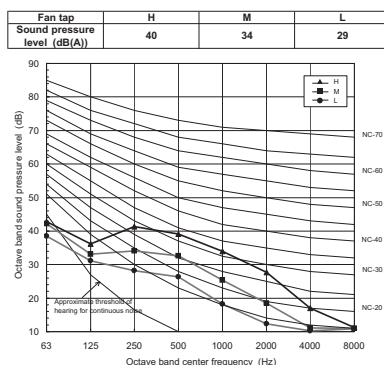
## Sound pressure levels

Unit: dB(A)

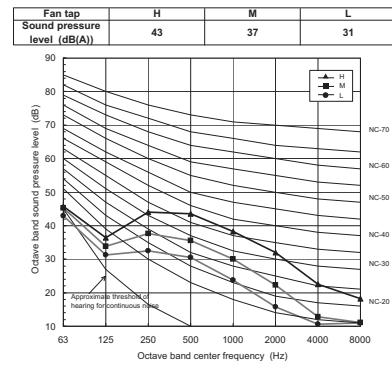
MML-UP0071NH-E, UP0091NH-E



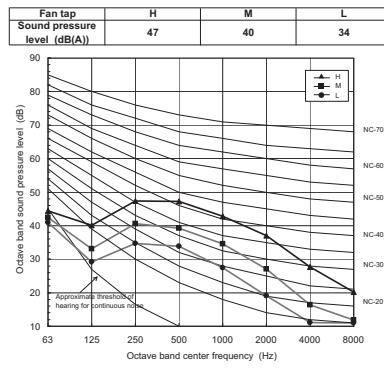
MML-UP0121NH-E



MML-UP0151NH-E



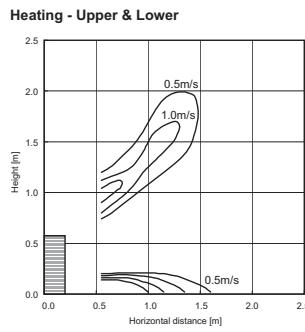
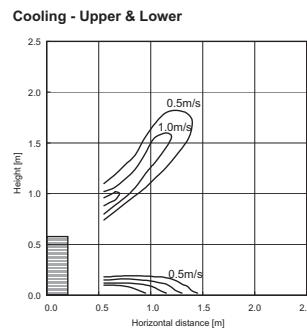
MML-UP0181NH-E



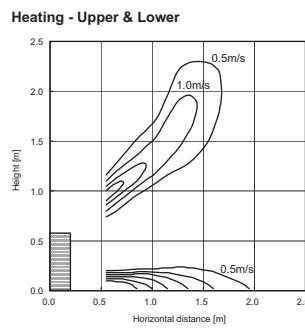
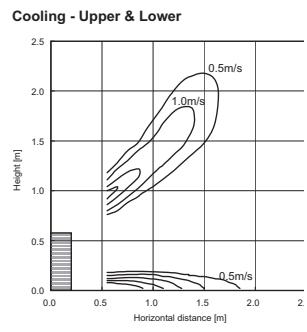
## Air diffusion

Unit: m/s

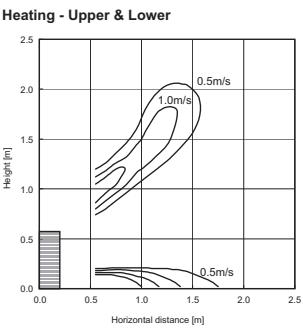
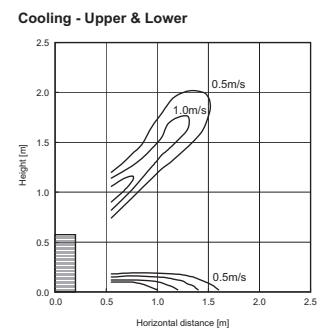
MML-UP0071NH-E, UP0091NH-E



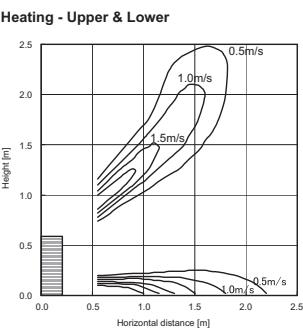
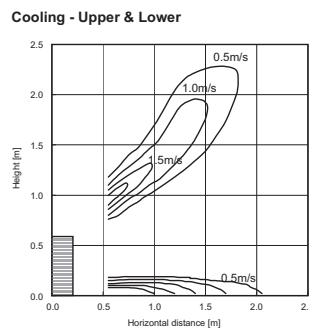
MML-UP0151NH-E



MML-UP0121NH-E



MML-UP0181NH-E



## Bi-flow console connectors

CN32	CN60	CN61	CN70	CN73	CN80
Additional ventilation control from remote control	Operation status signal output (cooling, heating, fan, defrost thermo-on)	External On/Off, operation output and alarm output	Warning symbol on remote control based on signal input. No IDU thermo off.	Forced IDU thermo-off based on signal input	Forced IDU thermo-off and IDU lock based on signal input
*	*	*	TCB-PCUC2E pcb needed	TCB-PCUC2E pcb needed	*



The simple design of this unit represents the perfect choice, for refurbishment projects, where the available space is limited, or where neither the walls nor ceiling are able to house the unit.

CAPACITY	SOUND PRESSURE LEVEL
0.8 HP < 2.5 HP	35dB(A)

## OUTDOOR UNITS COMPATIBILITY



Side Blow &amp; Mini SMMS-e



SMMS-u



SMMS-e



SHRM-e

## LOCAL CONTROLS



RBC-AXU31-E



RBC-ASCU11-E  
RBC-AMTU31-E  
RBC-AMS52-E  
RBC-AWS52-E

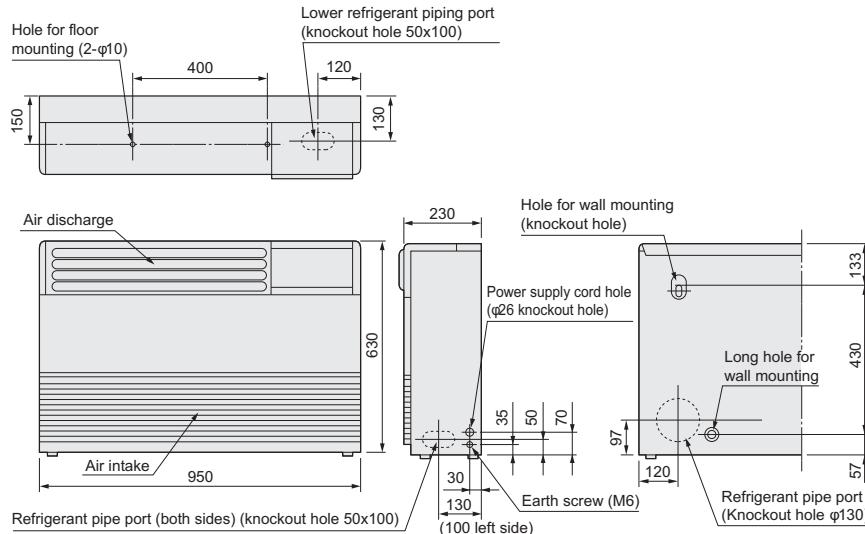
## Features

Model name	MML-	UP0071H-E	UP0091H-E	UP0121H-E	UP0151H-E	UP0181H-E	UP0241H-E
Capacity code	HP	0.8	1	1.3	1.7	2	2.5
Cooling capacity	kW	2.2	2.8	3.6	4.5	5.6	7.1
Heating capacity	kW	2.5	3.2	3.6	5	6.3	8
Electrical characteristics		Power supply 1 phase 50Hz 220-240V / (Separate power supply for indoor units is required.)					
Running current	50 Hz	A	0.26	0.43	0.47		
	60 Hz	A	0.25	0.44	0.53		
Power consumption	kW		0.056	0.092	0.102		
Starting current	A		0.60	0.80	1.10		
Appearance			Silky shade (1Y8.5/0.5)				
Outer dimension	HxLxP mm			630x950x230			
Total weight	kg		35		38		
Heat exchanger			Finned tube				
Soundproof/Heat-insulating material			Non-flammable insulation				
Fan		Centrifugal fan					
Fan unit	Standard air flow (High/Mid./Low)	m³/h	480 / 420 / 360	900 / 780 / 650	1.080 / 930 / 780		
	Motor output	W		45	70		
Sound pressure level (High/Mid./Low)	dB(A)		39/37/35	45/41/38	49/44/39		
Sound power level (High/Mid./Low)	dB(A)		54/52/50	60/56/53	64/59/54		
Air filter			Standard filter (Simple filter)				
Controller			Remote controller				
Connecting pipe	Gas side	inch	3/8"	3/8"	1/2"	1/2"	5/8"
	Liquid side	inch	1/4"	1/4"	1/4"	1/4"	3/8"
	Drain port (Nominal dia.)	mm		20 (Polyvinyl chloride tube)			

## Drawings

Unit: mm

## All models

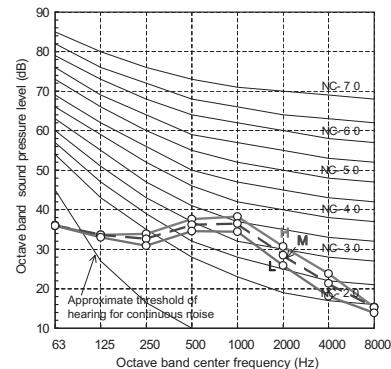


## Sound pressure levels

Unit: dB(A)

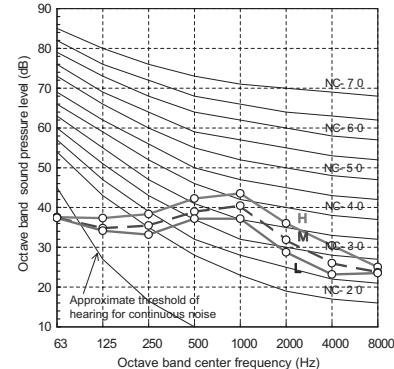
MML-UP0071H-E, UP0091H-E

Fan tap	H	M	L
Sound pressure level (dB(A))	39	37	35



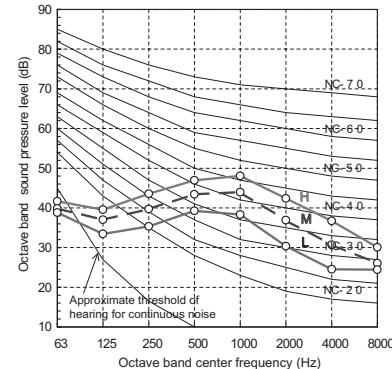
MML-UP0121H-E, UP0151H-E

Fan tap	H	M	L
Sound pressure level (dB(A))	45	41	38



MML-UP0181H-E, UP0241H-E

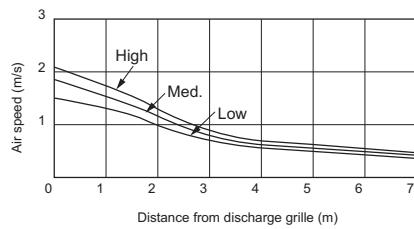
Fan tap	H	M	L
Sound pressure level (dB(A))	49	44	39



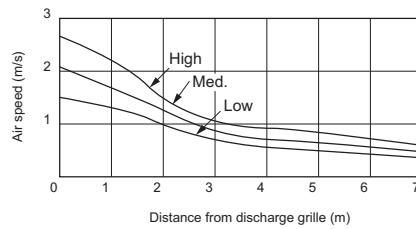
## Air diffusion

Unit: m/s

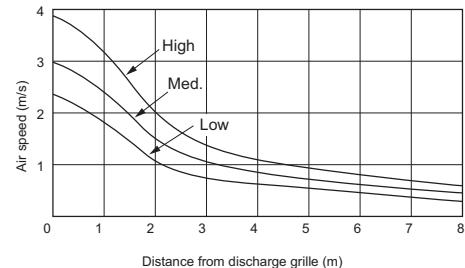
MML-UP0071H-E, UP0091H-E



MML-UP0121H-E, UP0151H-E



MML-UP0181H-E, UP0241H-E



## Console connectors

CN32	CN60	CN61	CN70	CN73	CN80
Additional ventilation control from remote control	Operation status signal output (cooling, heating, fan, defrost, thermo-on)	External On/Off, operation output and alarm output	Warning symbol on remote control based on signal input. No IDU thermo off.	Forced IDU thermo-off based on signal input	Forced IDU thermo-off and IDU lock based on signal input
*	*	*	*	*	*

# MML-UP\_BH

## CONCEALED CONSOLE



This slim unit is designed to easily fit into a compact space and to perfectly integrate itself behind a decorative panel. This is the ideal unobtrusive solution that blends into any interior.

CAPACITY	SOUND PRESSURE LEVEL
0.8 HP < 2.5 HP	32dB(A)

## OUTDOOR UNITS COMPATIBILITY



Side Blow &amp; Mini SMMS-e



SMMS-u



SMMS-e



SHRM-e

## LOCAL CONTROLS



RBC-AXU31-E

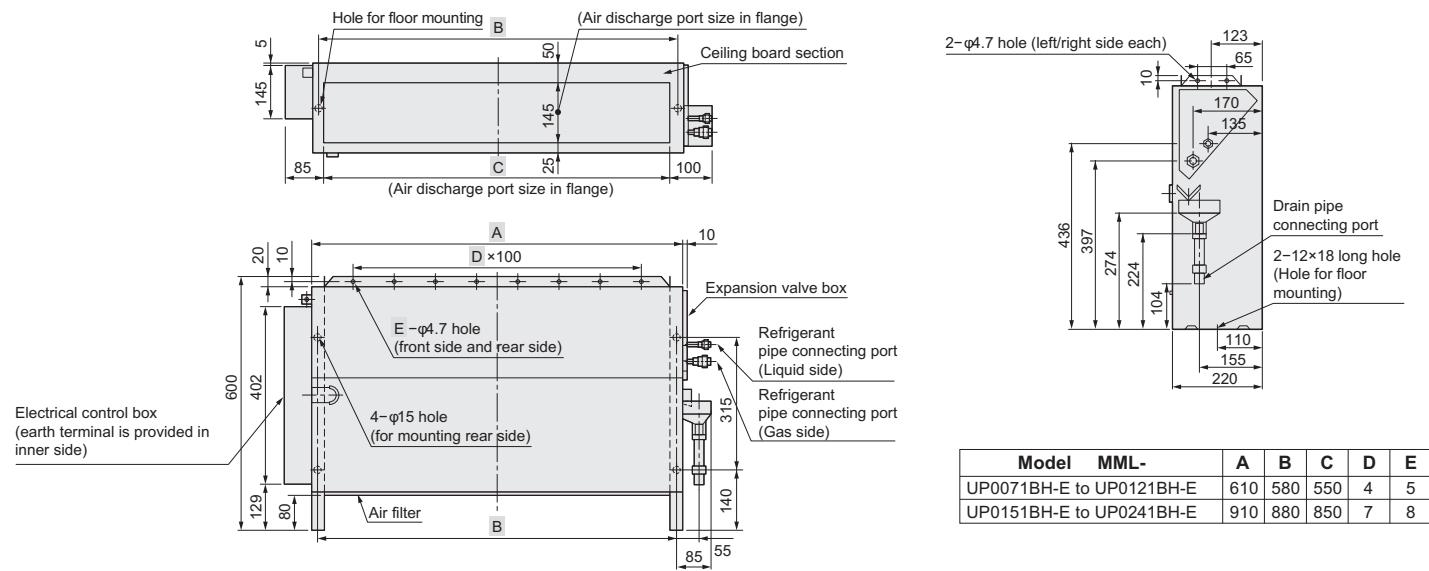

 RBC-ASCU11-E  
 RBC-AMTU31-E  
 RBC-AMS52-E  
 RBC-AWS52-E

## Features

Model name	MML-	UP0071BH-E	UP0091BH-E	UP0121BH-E	UP0151BH-E	UP0181BH-E	UP0241BH-E
Capacity code	HP	0.8	1	1.3	1.7	2	2.5
Cooling capacity	kW	2.2	2.8	3.8	4.5	5.6	7.1
Heating capacity	kW	2.5	3.6	4	5	6.3	8
Electrical characteristics		Power supply 1 phase 50Hz 200-240V (Separate power supply for indoor units is required.)					
Running current	50 Hz	A	0.25		0.45		0.46
Power consumption H/L	50 Hz	kW	0.056/0.039		0.090/0.062		0.095/0.067
Starting current		A	0.60		0.80		1.00
Appearance			Zinc hot dipping steel plate				
Dimensions	HxLxP	mm	600x745x220		600x1045x220		
Weight		kg	21		28		
Heat exchanger			Finned tube				
Soundproof/Heat-insulating material			Non-flammable insulation				
Fan unit		Fan	Centrifugal fan				
Standard air flow (High/Mid./Low)	m³/h		460/400/300		740/600/490		950/790/640
Motor output	W		19		70		
Static pressure	Pa			0			
Air filter			Standard filter (Simple feter)				
Controller			Remote controller				
Connecting pipe	Gas side	inch	3/8"	3/8"	1/2"	1/2"	5/8"
Liquid side	inch		1/4"	1/4"	1/4"	1/4"	3/8"
Drain port (Nominal dia.)	mm			20 (One side of male screw)			
Sound pressure level (High/Mid./Low)	dB(A)		36/34/32			42/37/33	
Sound power level (High/Mid./Low)	dB(A)		54/52/50			60/55/51	

## Drawings

Unit: mm

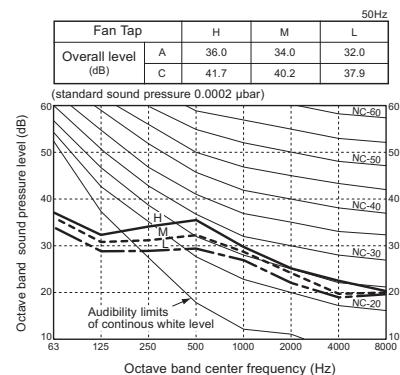


## CONCEALED CONSOLE

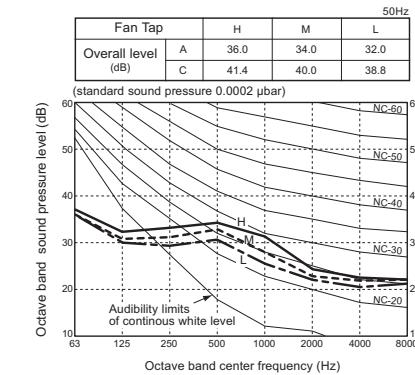
## Sound pressure levels

Unit: dB(A)

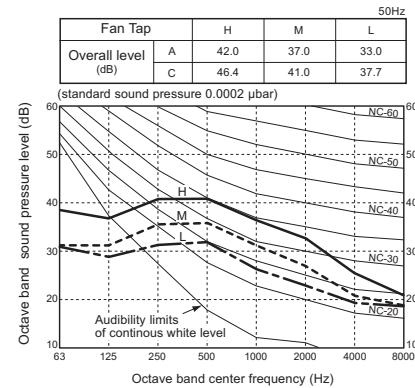
MML-UP0071BH-E to MML-UP0121BH-E



MML-UP0151BH-E, MML-UP0181BH-E



MML-UP0241BH-E



## Concealed chassis embedded connectors

CN32	CN60	CN61	CN70	CN73	CN80
Additional ventilation control from remote control	Operation status signal output (cooling, heating, fan, defrost, thermo-on)	External On/Off, operation output and alarm output	Warning symbol on remote control based on signal input. No IDU thermo off.	Forced IDU thermo-off based on signal input	Forced IDU thermo-off and IDU lock based on signal input
*	*	*	*	*	*

&gt; IDU



This system is particularly suitable to air condition large rooms like shops or showrooms or with low ceilings like restaurants or lofts.

CAPACITY	SOUND PRESSURE LEVEL
 1.7 HP < 6 HP	 37dB(A)

## OUTDOOR UNITS COMPATIBILITY



Side Blow  
& MiNi SMMS-e



SMMS-u



SMMS-e



SHRM-e



## LOCAL CONTROLS

RBC-ASCU11-E  
RBC-AMTU31-E  
RBC-AMSU52-E  
RBC-AWSU52-E

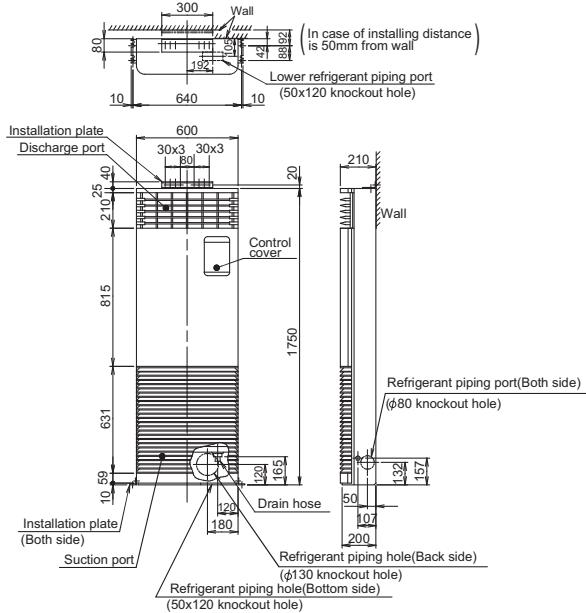
## Features

Model name	MMF-	UP0151H-E	UP0181H-E	UP0241H-E	UP0271H-E	UP0361H-E	UP0481H-E	UP0561H-E			
Capacity code		1.7	2	2.5	3	4	5	6			
Cooling capacity	kW	4.5	5.6	7.1	8	11.2	14	16			
Heating capacity	kW	5	6.3	8	9	12.5	16	18			
Electrical characteristics	Power supply 1 phase 50Hz 220-240V (Separate power supply for indoor units is required.)										
	Running current 50 Hz	A	0.37	0.55	0.82	0.97					
	Power consumption H	kW	0.053	0.087	0.133	0.158					
	Starting current 50 Hz	A	0.48	0.71	1.06	1.27					
Appearance	Silky shade (Munsell / 1Y 8.5 / 8.0)										
Dimensions	HxLxP mm		1750x600x210			1750x600x390					
Weight	kg		46	47	62						
Heat exchanger	Finned tube										
Soundproof/Heat-insulating material	Non-flammable insulation										
Fan unit	Fan		Centrifugal fan								
	Standard air flow (High/Mid./Low)	m³/h	820/700/600			930/770/640	1660/1420/1170	1760/1480/1350			
	Motor	W	62			62	109				
Air filter	Standard filter (Simple filter)										
Controller	Remote controller										
Connecting pipe	Gas side	inch	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"			
	Liquid side	inch	1/4"	1/4"	1/4"	3/8"	3/8"	3/8"			
	Drain port (Nominal dia.)	mm		20 (One side of male screw)							
Sound pressure level (High/Mid./Low)	dB(A)	46/42/38		50/45/41		51/46/41	53/48/45				
Sound power level (High/Mid./Low)	dB(A)	60/56/52		64/60/54		65/61/56	67/62/59				

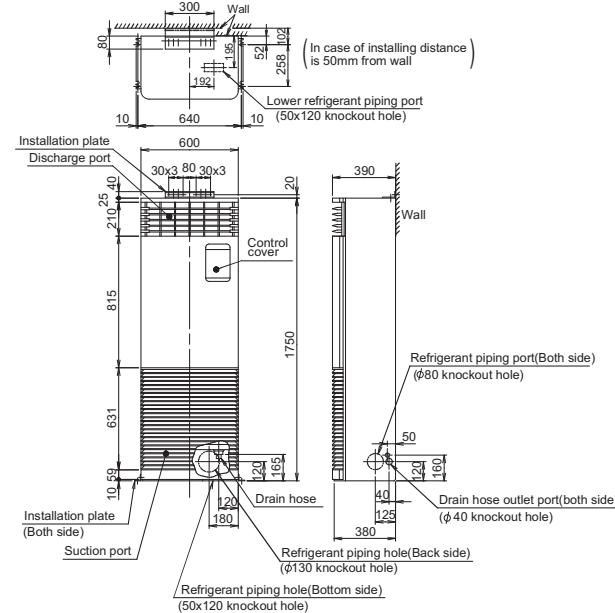
## Drawings

Unit: mm

## **MMF-UP0151H-E to MMF-UP0271H-E**



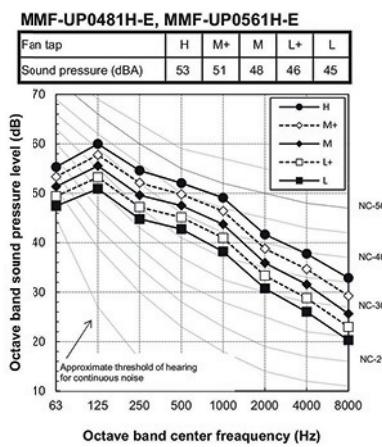
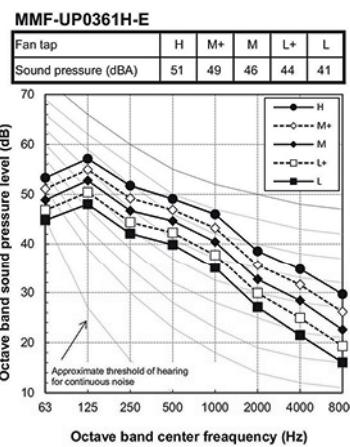
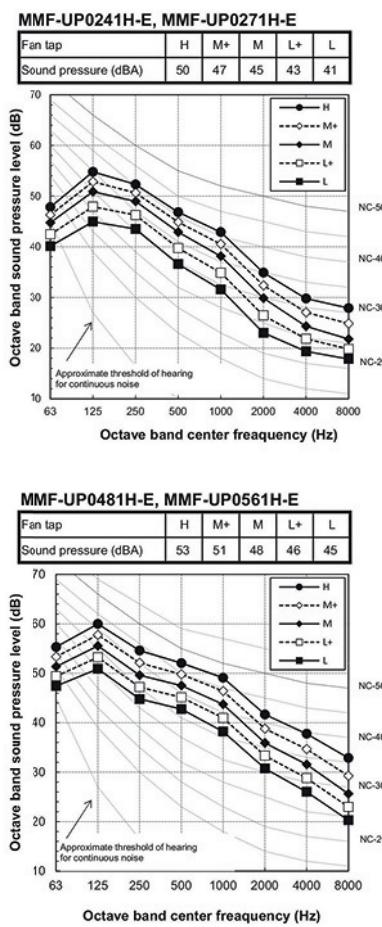
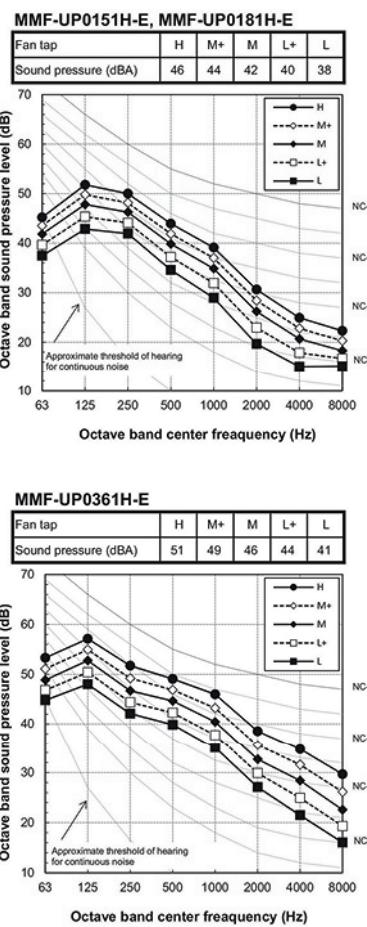
MMF-UP0361H-E to MMF-UP0561H-E



## FLOOR STANDING

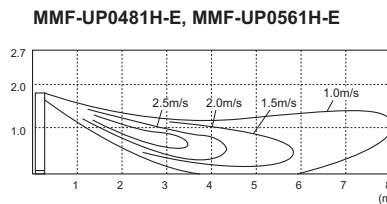
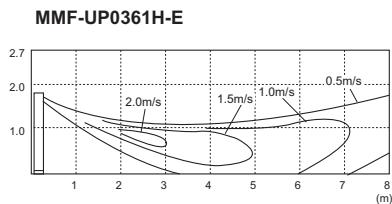
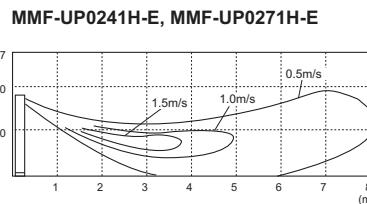
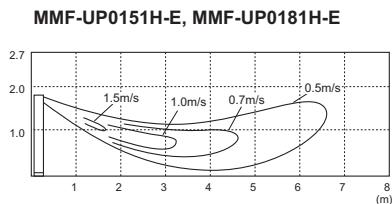
## Sound pressure levels

Unit: dB(A)



## Air diffusion

Unit: m/s



## Floor standing embedded connectors

CN32	CN60	CN61	CN70	CN73	CN80
Additional ventilation control from remote control	Operation status signal output (cooling, heating, fan, defrost, thermo-on)	External On/Off, operation output and alarm output	Warning symbol on remote control based on signal input. No IDU thermo off.	Forced IDU thermo-off based on signal input	Forced IDU thermo-off and IDU lock based on signal input
*	TCB-PCUC2E pcb needed	*	TCB-PCUC2E pcb needed	TCB-PCUC2E pcb needed	TCB-PCUC2E pcb needed



Particularly compact, this high-wall is perfect for limited spaces, such as offices or small shops.

CAPACITY	SOUND PRESSURE LEVEL
 0.3 HP < 4 HP	 25dB(A)

## OUTDOOR UNITS COMPATIBILITY

Side Blow,  
MINI-SMMS &  
MINI SMMS-eSMMS-u &  
SHRM AdvanceSMMS-e &  
SHRM-e

## LOCAL CONTROLS



Included

RBC-ASCU11-E  
RBC-AMTU31-E  
RBC-AMSU52-E  
RBC-AWSU52-E

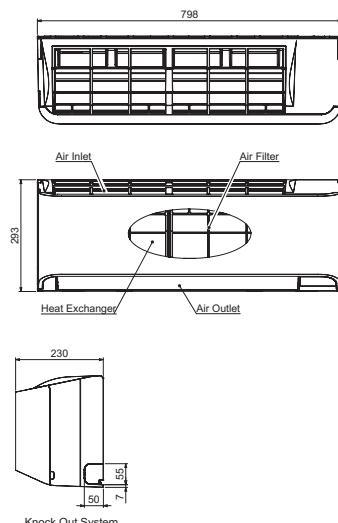
## Features

Model name	Standard application	MMK-UP0031HP-E	MMK-UP0051HP-E	MMK-UP0071HP-E	MMK-UP0091HP-E	MMK-UP0121HP-E	MMK-UP0151HP-E	MMK-UP0181HP-E	MMK-UP0241HP-E	MMK-UP0271HP-E	MMK-UP0301HP-E	MMK-UP0361HP-E	
Capacity code	low noise applications	MMK-UP0031HPL-E	MMK-UP0051HPL-E	MMK-UP0071HPL-E	MMK-UP0091HPL-E	MMK-UP0121HPL-E	MMK-UP0151HPL-E	MMK-UP0181HPL-E	MMK-UP0241HPL-E	-	-	-	
Cooling capacity	kW	0.9	1.7	2.2	2.8	3.6	4.5	5.6	7.1	8.0	9.0	11.2	
Heating capacity	kW	1.3	1.9	2.5	3.2	4.0	5.0	6.3	8.0	9.0	10.0	12.5	
Electrical characteristics	Power supply	1 phase / 50Hz / 220V-240V (Separate power supply for indoor units is required.)											
	Running current	A	0.15	0.15	0.16	0.17	0.18	0.26	0.29	0.40	0.30	0.46	0.56
	Power consumption	kW	0.015	0.015	0.015	0.016	0.017	0.028	0.032	0.05	0.034	0.054	0.066
	Starting current	A	0.19	0.19	0.20	0.21	0.22	0.35	0.38	0.50	0.34	0.50	0.60
Outer dimension	HxLxP	mm	293x798x230					320x1050x250			348x1200x280		
Weight	kg		11					16			21		
Air Flow (H / M / L)	m3/h	455/370/270	455/370/270	480/385/270	510/395/270	540/410/270	840/690/550	900/720/550	1200/900/600	1200/1000/800	1500/1300/1100	1650/1350/1250	
Sound Pressure Level (H / M / L)	dB(A)	33/29/25	33/29/25	35/30/25	36/31/25	37/32/25	40/36/32	41/37/32	45/39/33	44/41/39	48/44/41	50/45/43	
Sound Power Level (H / M / L)	dB(A)	48/44/40	48/44/40	50/45/40	51/46/40	52/47/40	55/51/47	56/52/47	60/54/48	59/56/54	63/59/56	65/60/58	
Heat exchanger			Finned tube										
Soundproof/Heat-insulating material			Non-flammable insulation										
Fan	Fan type		Cross Flow Fan										
	Motor output	W	42										
Controller (Packed with unit)			WH-TA09NE										
Connecting pipe	Gas side	mm	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	5/8"	5/8"	5/8"	5/8"	5/8"
	Liquid side	mm	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	3/8"	3/8"	3/8"	3/8"	3/8"
Drain port diameter	mm		16 (Polyvinyl chloride tube)										

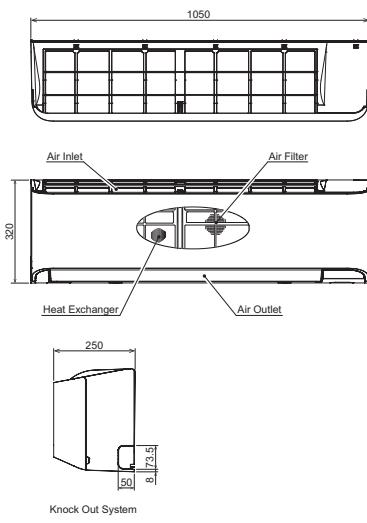
## Drawings

Unit: mm

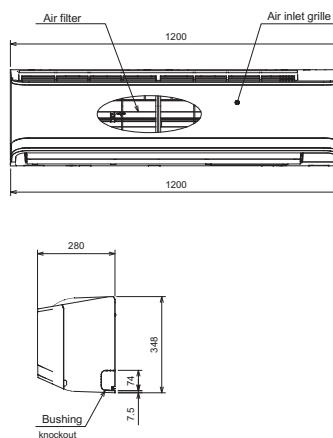
MMK-UP0031HP(L)-E to MMK-UP0121HP(L)-E



MMK-UP0151HP(L)-E to MMK-UP0241HP(L)-E



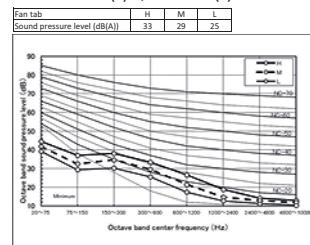
MMK-UP0271HP-E to MMK-UP0361HP-E



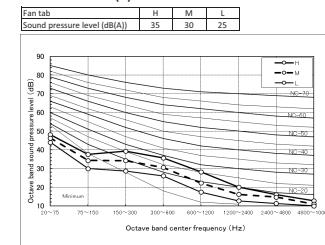
**HIGH-WALL****Sound pressure levels**

Unit: dB(A)

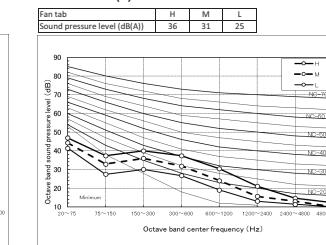
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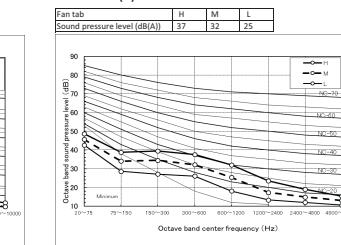
MMK-UP0071HP(L)-E



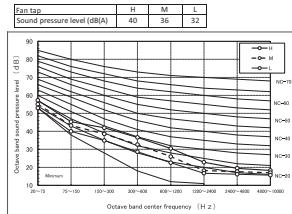
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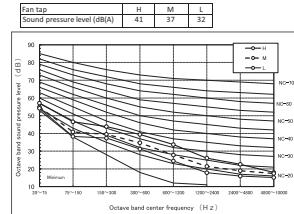
MMK-UP0121HP(L)-E



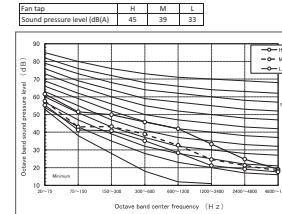
MMK-UP0151HP(L)-E



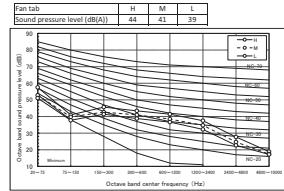
MMK-UP181HP(L)-E



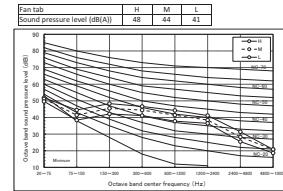
MMK-UP0241HP(L)-E



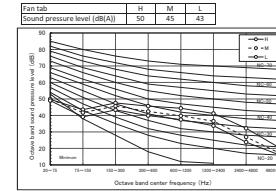
MMK-UP0271HP-E



MMK-UP0301HP-E

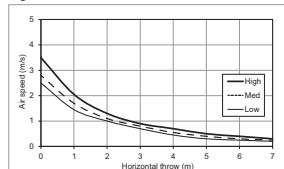


MMK-UP0361HP-E

**Air diffusion**

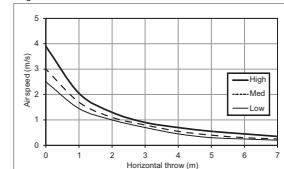
MMK-UP0031HP(L)-E &amp; MMK-UP0051HP(L)-E

High wind : 3.8m/s - Med wind : 2.8m/s - Low wind : 2.5m/s



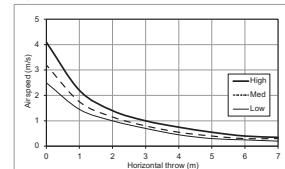
MMK-UP0071HP(L)-E

High wind : 3.9m/s - Med wind : 3.0m/s - Low wind : 2.5m/s



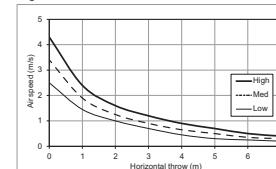
MMK-UP0091HP(L)-E

High wind : 4.1m/s Med wind : 3.2m/s Low wind : 2.5m/s

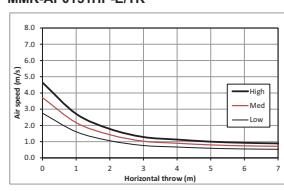


MMK-UP0121HP(L)-E

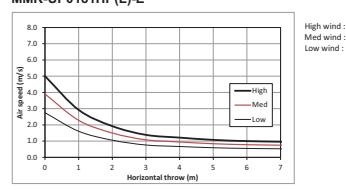
High wind : 4.3m/s Med wind : 3.4m/s Low wind : 2.5m/s



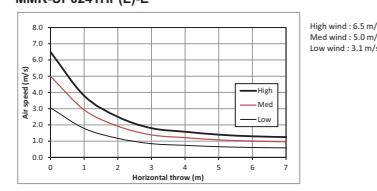
MMK-AP0151HP-E/TR



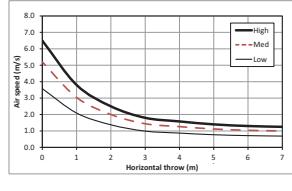
MMK-UP0181HP(L)-E



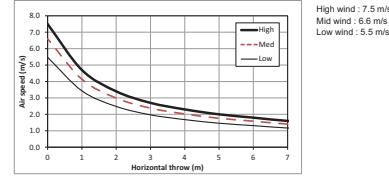
MMK-UP0241HP(L)-E



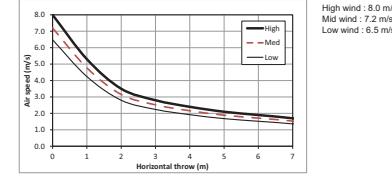
MMK-UP0271HP-E



MMK-UP0301HP-E



MMK-UP0361HP-E

**Accessories**

Type	Model name	Applied model	Appearance	Remarks
PMV Kit	RBM-PMV0301U-E	0.3 to 1.25HP high-wall		Needed for low noise application high wall
	RBM-PMV0901U-E	1.7 to 3.0HP high-wall		

**High wall embedded connectors**

CN32	CN60	CN61	CN70	CN73	CN80
Additional ventilation control from remote control	Operation status signal output (cooling, heating, fan, defrost, thermo-on)	External On/Off, operation output and alarm output	Warning symbol on remote control based on signal input. No IDU thermo off.	Forced IDU thermo-off based on signal input	Forced IDU thermo-off and IDU lock based on signal input
*	*	*	TCB-PCUC2E pcb needed	TCB-PCUC2E pcb needed	*

VN-M\_HE

## AIR-TO-AIR HEAT EXCHANGER



Toshiba's VN model uses exhaust air to pre-condition the incoming air, thus reducing the cooling or heating load on the system. This allows the overall capacity size of the system to be reduced.

AIR FLOW



SOUND PRESSURE LEVEL

150m<sup>3</sup>/h > 2,000m<sup>3</sup>/h

20dB(A)

## OUTDOOR UNITS COMPATIBILITY



## LOCAL CONTROLS



## Features

Item	VN-M150HE	VN-M250HE	VN-M350HE	VN-M500HE	VN-M650HE	VN-M800HE	VN-M1000HE1	VN-M1500HE1	VN-M2000HE1
Air volume (m <sup>3</sup> /h)	Extra high	150	250	350	500	650	800	1000	1500
	High	150	250	350	500	650	800	1000	1500
	Low	110	155	210	390	520	700	700	1200
Power consumption (W)	Extra high	68-78	123-138	165-182	214-238	262-290	360-383	390	640
	High	59-67	99-111	135-145	176-192	240-258	339-353	340	570
	Low	42-47	52-59	82-88	128-142	178-191	286-300	190	320
External static pressure (Pa)	Extra high	82-102	80-98	114-125	134-150	91-107	142-158	105	140
	High	52-78	34-65	56-83	69-99	58-82	102-132	80	110
	Low	47-64	28-40	65-94	62-92	61-96	76-112	70	80
Sound pressure level (dB(A))	Extra high	26-28	29/5/30	34-35	32.5-34	34-36	37-38.5	38.0	41.0
	High	24-25.5	25-27	30-32	29/5/31	33-34	35.5-37	37.0	40.0
	Low	20-22	21-22	27-29	26-29	31-32.5	33.5-35	33.0	36.0
Sound power level (dB(A))	Extra high	41.0-43.0	44.5-45.0	49.0-50.0	47.5-49.0	49.0-51.0	52.0-53.5	53.0	56.0
Temperature exchange efficiency (%)	Extra high	81.5	78	74.5	76.5	75	76.5	73.5	73.5
	High	81.5	78	74.5	76.5	75	76.5	73.5	73.5
	Low	83	81.5	79.5	78	76.5	77.5	77.0	77.5
Enthalpy exchange efficiency (%)	For heating	74.5	70	65	72	69.5	71	68.5	71.0
	High	74.5	70	65	72	69.5	71	68.5	71.0
	Low	76	74	71.5	73.5	71.5	71.5	73.5	72.0
For cooling	Extra high	69.5	65	60.5	64.5	61.5	64	60.5	64.0
	High	69.5	65	60.5	64.5	61.5	64	60.5	64.0
	Low	71	69	67	66.5	64	65.5	64.5	67.0
Power supply (V)						220-240V~, 50Hz			
Dimensions (LxWxH) (mm)	900 x 900 x 290				1140 x 1140 x 350		1189 x 1189 x 400		1189 x 1189 x 810
Weight (kg)	36	36	38	53	53	70	70	126	126
Duct diameter (mm)	100	150			200		250		Inside: 250 Outside: 283x730
Filtration efficiency grade (%)						82			
Operating range	Around unit					-10°C-40°C 80%RH or less			
	Outdoor Air (OA)					-15°C(*1)-43°C 80%RH or less			
	Return Air (RA)					5°C-40°C 80%RH or less			

\* Air volume can be changed over to high (Extra high) mode or low mode at both heat exchange and normal ventilation modes.

\* Sound power level is the value of casing.

\* Sound pressure level is measured 1.5 m below the center of the unit, and the value which was measured at the acoustic room.

\*1) When the temperature of the outdoor air is below -10°C, the unit runs cold operation mode (intermittent operation of the ventilation for air supply).

\* Sound pressure levels usually become higher than above values by the influence of actual installation condition such as reflected sound and peripheral noise.

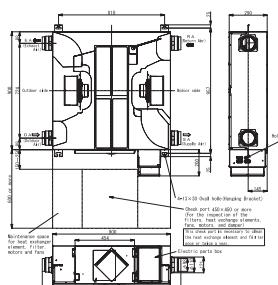
The unit cannot be used at -15°C or less.

The ventilator for air supply stops, and the ventilator for air exhaust also can be stopped by the setting.

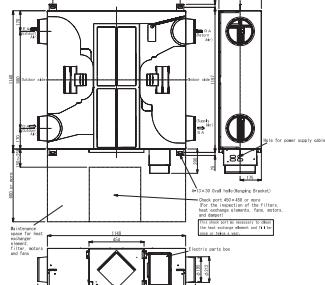
## Drawings

Unit: mm

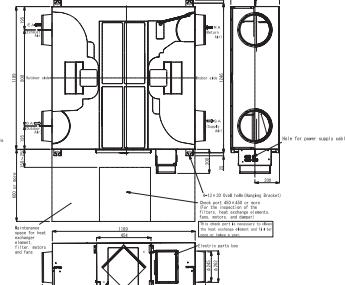
## VN-M150HE to VN-M350HE



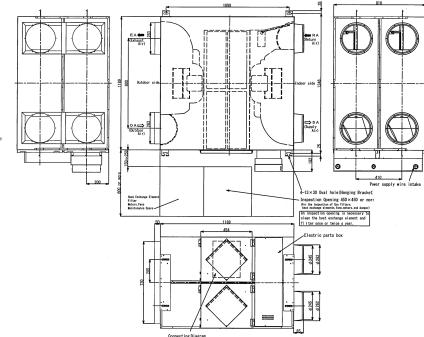
## VN-M500HE &amp; VN-M650HE'



## VN-M800HE &amp; VN-M1000HE1



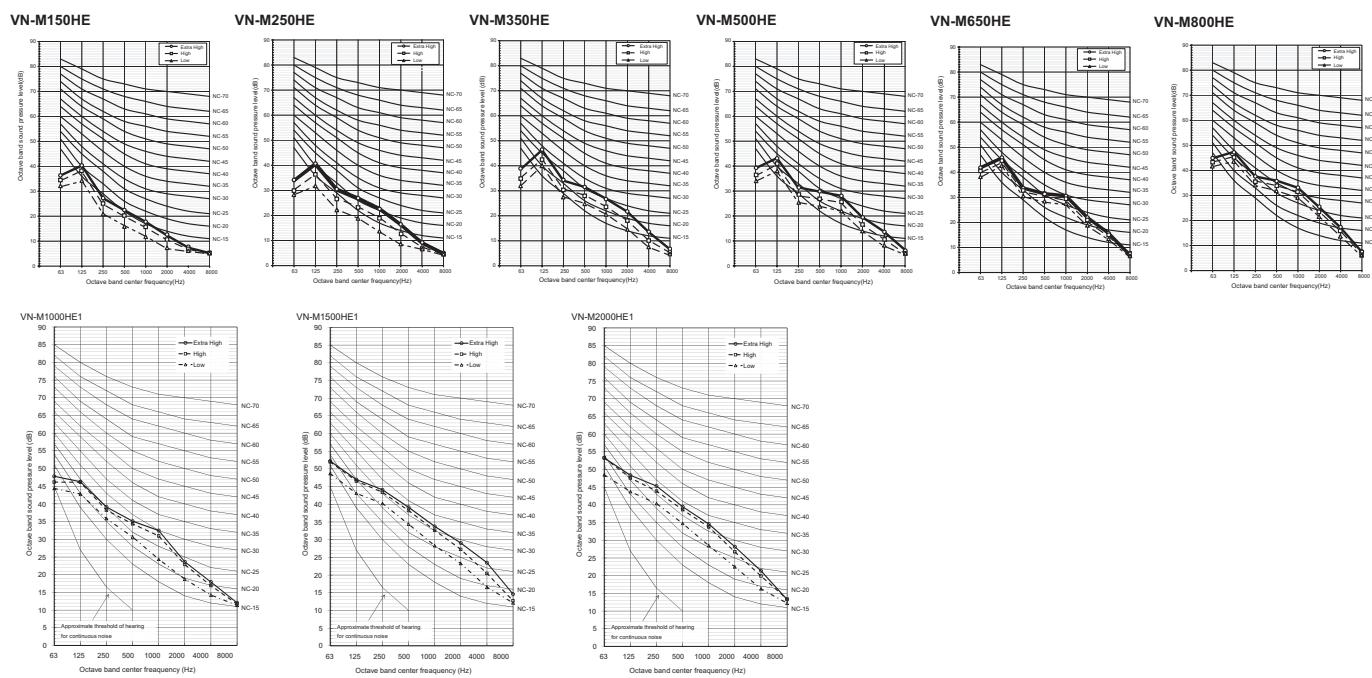
## VN-M1500HE1 &amp; VN-M2000HE1



## AIR-TO-AIR HEAT EXCHANGER

## Sound pressure levels

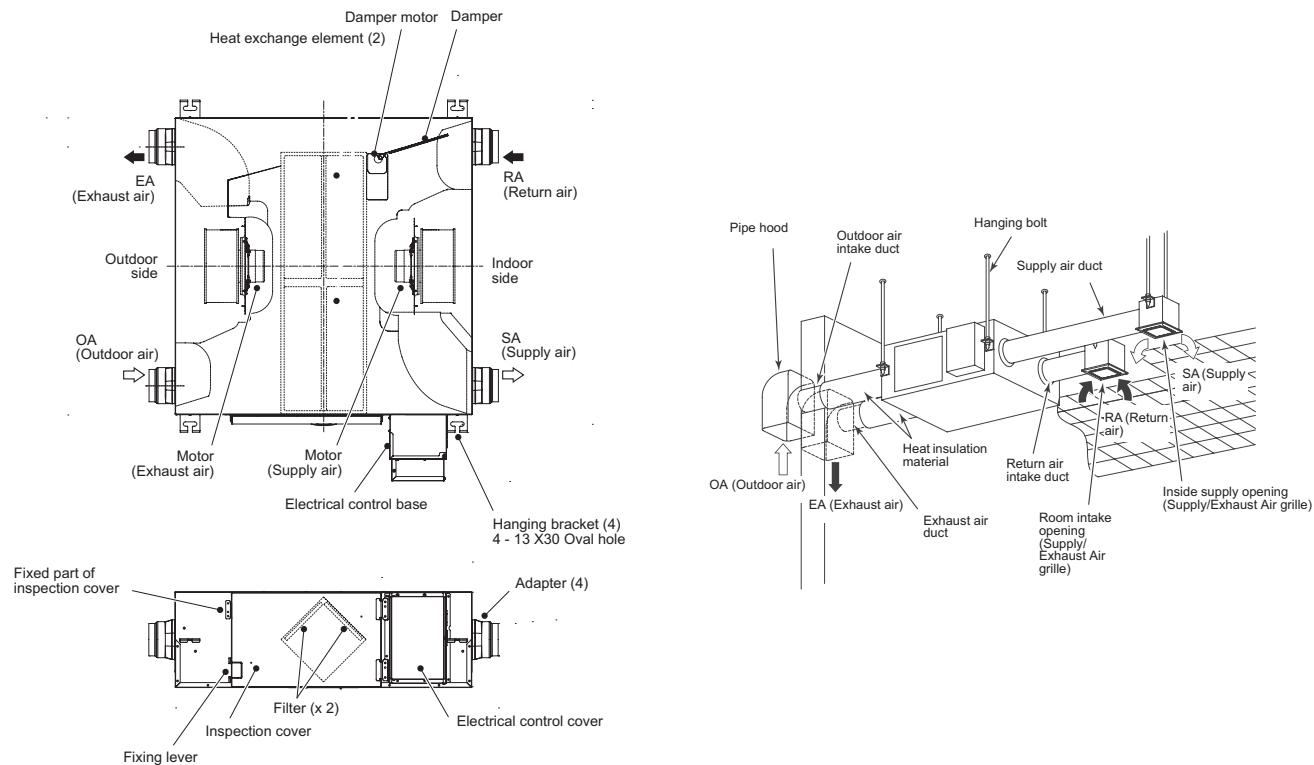
Unit: dB(A)



## Accessories

Type	Model name	Description	Appearance	Remarks
Control	NRC-01HE	All air-to-air heat exchangers dedicated remote control		Integrated functions : fan speed, freecooling, air balance volume rate, temperature management and timer.
	NRB-1HE	All air-to-air heat exchangers On/Off additional PCB		On/off optional PCB for air-to-air heat exchanger

## Other information





MMD-VN(K) ventilation products are using exhaust air + DX coil to pre-condition the incoming air, thus reducing the cooling or heating load and the overall size of the required air conditioning system.



4.1kW &gt; 10.9kW



Up to 500m³/h &gt; 1,000m³/h



34dB(A)

## OUTDOOR UNITS COMPATIBILITY



MINI SMMS-e

SMMS-e  
SHRM-e

## LOCAL CONTROLS

NRC-01HE  
RBC-AMTU31-E

## Features

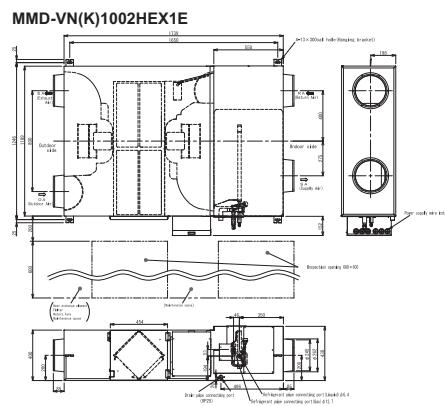
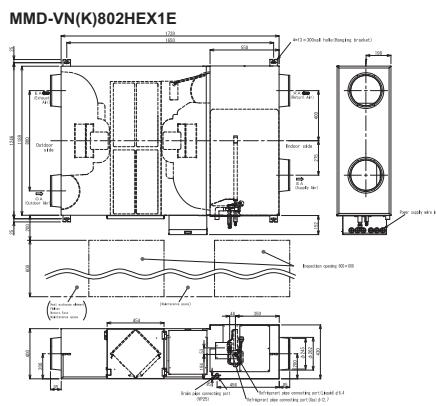
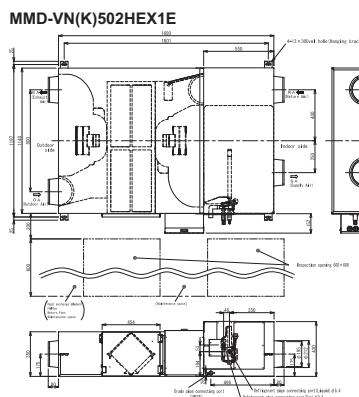
Model name	MMD-	Without humidifier			With humidifier			
		VN502HEX1E	VN802HEX1E	VN1002HEX1E	VNK502HEX1E	VNK802HEX1E	VNK802HEX1E	
Cooling Capacity	kW	4.10(1.30)	6.56(2.06)	8.25(2.32)	4.10(1.30)	6.56(2.06)	8.25(2.32)	
Heating Capacity	kW	5.53(2.33)	8.61(3.61)	10.92(4.32)	5.53(2.33)	8.61(3.61)	10.92(4.32)	
Power supply	1 phase 50Hz 230V(220V-240V) (Separate power supply for indoor units is required.)					1 phase 50Hz 230V(220V-240V)		
Temperature exchange efficiency	Extra High	%	70.5	70.0	65.5	70.5	70	65.5
	High	%	70.5	70.0	65.5	70.5	70	65.5
	Low	%	71.5 / 72.0	72.5 / 73.0	67.5 / 68.0	71.5	72.5	67.5
Enthalpy exchange efficiency	Extra High	%	56.5	56.0	52.0	56.5	56.0	52.0
	High	%	56.5	56.0	52.0	56.5	56.0	52.0
	Low	%	57.5 / 58.0	59.0 / 59.5	54.0 / 55.0	57.5	59.0	54.5
Cooling	Extra High	%	68.5	70.0	66.0	68.5	70.0	66.0
	High	%	68.5	70.0	66.0	68.5	70.0	66.0
	Low	%	69.0 / 69.0	73.0 / 73.5	68.5 / 69.0	69.0	73.0	68.5
Heating	Extra High	%	69.0 / 69.0	73.0 / 73.5	68.5 / 69.0	69.0	73.0	68.5
Power input (Heat exchange mode)	Extra High	kw	0.300 / 0.365	0.505 / 0.595	0.550 / 0.720	0.305	0.530	0.575
	High	kw	0.280 / 0.350	0.465 / 0.555	0.545 / 0.665	0.285	0.485	0.565
	Low	kw	0.235 / 0.250	0.335 / 0.390	0.485 / 0.530	0.240	0.350	0.520
Running current	Extra High	A	1.30 / 1.65	2.25 / 2.77	2.46 / 3.38	1.33	2.37	2.56
	High	A	1.21 / 1.62	2.07 / 2.59	2.43 / 3.11	1.24	2.14	2.51
	Low	A	1.01 / 1.14	1.46 / 1.79	2.16 / 2.45	1.03	1.54	2.31
Fan unit	Standard air flow	m³/h	500	800	950	500	800	950
	High	m³/h	500	800	950	500	800	950
	Low	m³/h	440 / 410	640 / 600	820 / 800	440	640	820
	External static pressure	Pa	120 / 200	120 / 190	135 / 195	95	105	110
	High	Pa	105 / 170	100 / 155	120 / 160	85	85	90
	Low	Pa	115 / 150	100 / 130	105 / 130	95	90	115
	Air flow limit	Lower limit	m³/h	330	480	640	330	480
	Upper limit	m³/h	600	960	1140	600	960	1140
Humidifier	System	-	-	-	Permeable film humidifier			
	Amount	-	-	-	3.0	5.0	6.0	
	Feed water pressure	-	-	-	0.02-0.49			
Sound pressure	Extra High	dB	37.5 / 40	41 / 43	43 / 43.5	36.5	40	42
	High	dB	36.5 / 38	40 / 42	42 / 42	35.5	39	41
	Low	dB	34.5 / 36.5	38 / 37	40 / 40	33.5	38	39
Sound power		dB	55	58	59	55	58	59
Appearance	Zinc hot dipping steel plate					Zinc hot dipping steel plate		
Dimensions	HxWxD	mm	430x1140x1690	430x1189x1739	430x1189x1789	430x1140x1690	430x1189x1739	430x1189x1739
Weight	kg		84	100	101	91	111	112
Heat exchanger	Finned tube					Finned tube		
Heat-insulating material	Flexible urethane foam					Flexible urethane foam		
Air filter	Standard filter & High efficiency filter					Standard filter (Gravitational method 82%) & High efficiency filter (Colormetric method 65%)		
Controller	Remote controller (Separately sold parts)					Remote controller (Separately sold parts)		
Connecting piping	Gas side	mm	3/8"	1/2"	1/2"	3/8"	1/2"	1/2"
	Liquid side	mm	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"
	Drain port (Nominal dia.)	mm	25 (Polyvinyl chloride tube)			25 (Polyvinyl chloride tube)		
Water supply connection (Port size)	-					R1/2		
Operating range	Around unit		-10 - 40°C . RH ≤80%			-10 - 40°C . RH ≤80%		
	Outdoor Air (OA)		-15 - 43°C . RH ≤80%			-15 - 43°C . RH ≤80%		
	Return Air (RA)		5 - 40°C . RH ≤80%			5 - 40°C . RH ≤80%		

Cooling and heating capacities are based on the following conditions:  
cooling capacities are based on: indoor temperature: 27°CDB/19°CWB, Outdoor temperature: 35°C DB  
Heating capacities are based on: indoor temperature: 20°C DB, Outdoor temperature: 7 °C DB/6°C WB.  
The figures in ( ) indicate the heat reclaimed from the heat recovery ventilator.

## AIR-TO-AIR HEAT EXCHANGER WITH DX COIL

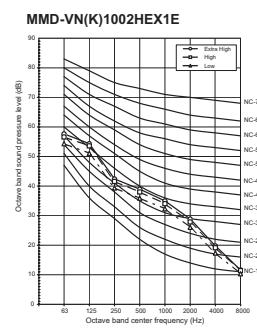
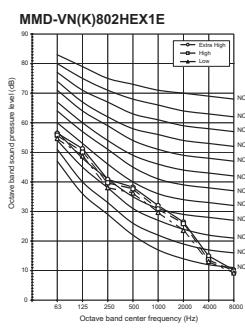
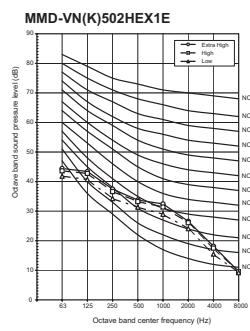
## Drawings

Unit: mm



## Sound pressure levels

Unit: dB(A)



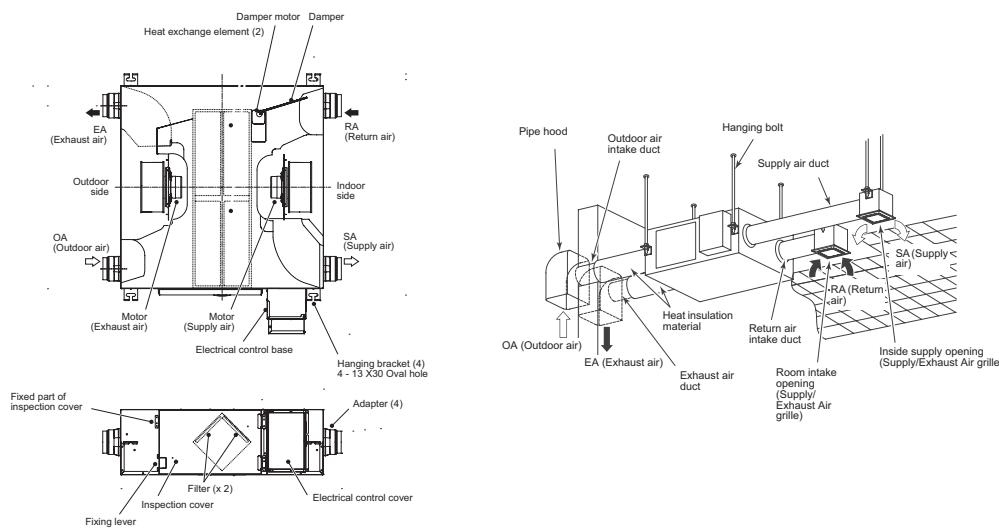
## Accessories

Type	Model name	Description	Appearance	Remarks
Control	NRC-01HE	Dedicated remote controller for air-to-air heat exchanger		Integrated functions: fan speed, freecooling, air balance volume rate, temperature management and timer.
	NRB-1HE	On/off optional PCB for air-to-air heat exchanger		
Condensates	TCB-DP31HEXE	Drain pump kit		

## Air-to-air heat exchanger (with DX coil) embedded connectors

CN32	CN60	CN61	CN70	CN73	CN80
Additional ventilation control from remote control	Operation status signal output (cooling, heating, fan, defrost, thermo-on)	External On/Off, operation output and alarm output	Warning symbol on remote control based on signal input. No IDU thermo off.	Forced IDU thermo-off based on signal input	Forced IDU thermo-off and IDU lock based on signal input
-	-	*	*	*	*

## Other information





This indoor unit has been specifically designed to manage and treat fresh air before its distribution into the building.

CAPACITY	AIR FLOW	SOUND PRESSURE LEVEL
5 HP < 14 HP	600m³/h > 3,600m³/h	31dB(A)

## OUTDOOR UNITS COMPATIBILITY

SMMS-u &  
SHRM AdvanceSMMS-e  
up to 10HP

## LOCAL CONTROLS

RBC-ASCU11-E  
RBC-ATM31U-E  
RBC-AMSU52-E

## Features

Model name	MMD-	UP0481HFP-E	UP0721HFP-E1	UP0961HFP-E1	UP1121HFP-E1	UP1281HFP-E1
Cooling capacity (*) (Note 1)	kW	14.0	22.4	28.0	33.5	40
Heating capacity (*) (Note 2)	kW	8.9	13.9	17.4	20.8	25.2
Electrical characteristics				1 phase 50Hz 220-240V		
Power supply						
Running current	A	0.77	0.86	1.07	1.30	1.83
Power consumption	kW	0.11	0.16	0.20	0.25	0.33
Starting current	A	2.01	7.80	7.80	7.80	7.80
Dimensions	Main unit	HxWxD	mm	327x1430x750	477x1430x900	477x1430x900
Weight	Main unit	kg		44	99	99
Heat exchanger				Finned tube		
Soundproof / Heat-insulating material				Non-flammable insulation		
Fan				Centrifugal fan		
Standard air flow (H/M/L)	m³/h	1080/930/760	1680/1440/1200	2100/1800/1470	2520/2130/1770	3060/2580/2130
Motor	W	350			1000	
Fan unit	External static pressure (factory default)	Pa		100		
External static pressure	Pa			50-75-100-125-150-175-200		
Air flow limit	Lower limit m³/h	600	960	1320	1500	1800
	Upper limit m³/h	1320	2040	2520	3060	3600
Air filter				Option or field supply		
Controller				Wired remote controller		
Connecting pipe	Gas pipe	inch	5/8	7/8	1 1/8	5/8
	Liquid pipe	inch	3/8	1/2		
	Drain pipe	mm		25		
Sound pressure level (High/Mid./Low)	dB(A)	38/35/31	38/36/33	39/36/33	40/37/34	42/38/35
Sound power level (High/Mid./Low)	dB(A)	58/55/51	73/71/68	74/71/68	75/72/69	77/73/70
Operation range for SMMS-u & SHRM Advance	Cooling (*) (Note 2)	°C		+5/+46 (Note 4)		
	Heating (*) (Note 3)	°C		-10/46		

\* The setting temperature is 13 - 25°C (standard FCU.. 18 - 30°C).

\* Height difference between Fresh Air Intake Indoor units must be within 5 m.

Note 1 : Rated conditions

Cooling : Outdoor air temperature 33°C DB/28°C WB setting temperature 18°C

Heating : Outdoor air temperature 0°C DB/-2.9°C WB setting temperature 25°C

Note 2 : When supply air temperature is "setting temperature + 3°C" or less, Fresh Air Intake unit operates as FAN mode

Note 3 : When supply air temperature is "setting temperature -3°C" or over, Fresh Air Intake unit operates as FAN mode

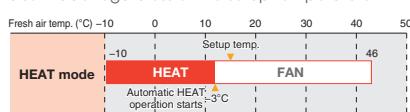
Note 4 : 46-52°C is also available with SMMS-u but temporary operable / 46-50°C is also available with SHRM Advance but temporary operable

## Use conditions

- In COOL mode, if temperature of the fresh air is below the setup temp. of +3°C, FAN status is automatically made. When temperature of the fresh air is below 19°C, FAN status is also made regardless of the setup temperature.



- In HEAT mode, if temperature of the fresh air is above the setup temp. -3°, FAN status is automatically made. When temperature of the fresh air is above 15°C, FAN status is also made regardless of the setup temperature.



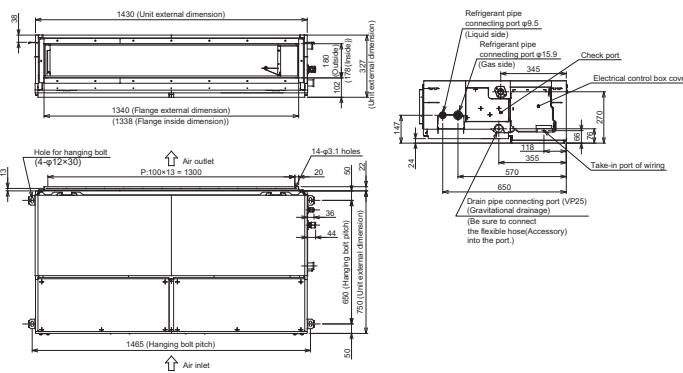
Operable mode and discharge temperature setup range

Operation mode	At shipment from factory	Setup range
COOL	18°C	13 to 25°C
HEAT	25°C	18 to 30°C

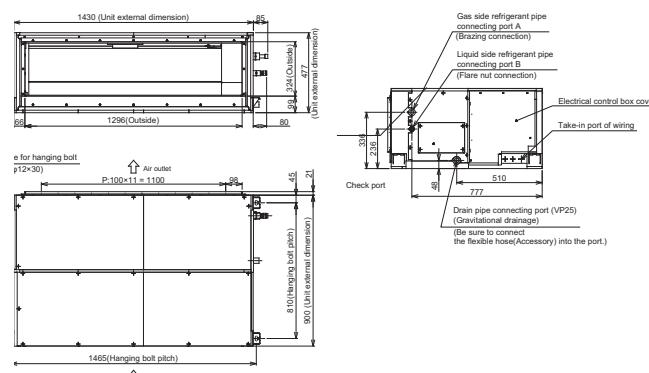
## Drawings

Unit: mm

MMD-UP0481HFP-E



MMD-UP0721HFP-E1 to MMD-UP1281HFP-E1



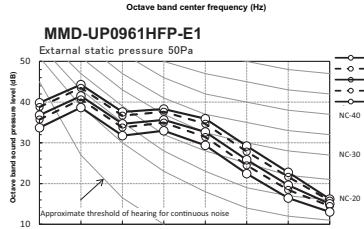
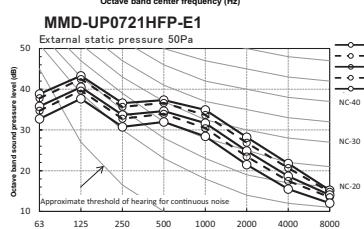
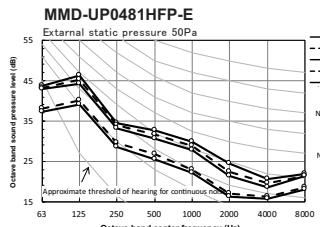
## FRESH AIR INTAKE

## Fresh air intake indoor unit type

System restriction	SMMS-u		SHRM Advance	
	Multi FCU connection	All fresh air intake connection	Multi FCU connection	All fresh air intake connection
Max. No. of combined Outdoor units	5	5	1	1
Max. capacity of combined Outdoor units	120HP	48HP	24HP	24HP
Maximum number of connected indoor units	128	-	54	-
Total capacity of combined Indoor+fresh air unit		80 to 110%		80 to 110%
Max. No. of combined Indoor units	4 units	4 units	4 units	4 units

Pipe length	Height difference	Allowable length and height difference of refrigerant piping	SMMS-u		SHRM Advance	
			Allowable value (m)			
			Multi FCU connection	All fresh air intake connection	Multi FCU connection	All fresh air intake connection
		Total extension of pipe (Liquid pipe)	Actual length m	500/1200m	300	500/500m
		Farthest piping length	Equivalent length m	250	230	250
		Main piping length	Actual length m	210	210	210
		Farthest equivalent piping length from the first branching section	Equivalent length m	120	120	120
		Maximum actual length of pipes connected to Indoor units	Actual length m	100	100	100
		Maximum equivalent length between branching sections	Equivalent length m	90	90	90
	Height difference	Height between outdoor and Indoor units	Upper Outdoor units m	30	30	30
		Height between Indoor units /fresh air intake units	Lower Outdoor units m	50	50	50
				40/5	-/5	40/5

## Sound pressure levels



## Accessories

Type	Model name	Description	Applied model	Appearance	Remarks
Air filtration	TCB-UFM0481D-E	High-efficiency filter 65	MMD-UP0481HFP-E		Filter chamber
	TCB-UFM1281D-E	High-efficiency filter 65	MMD-UP0721HFP-E1 to MMD-UP1281HFP-E1		Long life prefilter
	TCB-UFH0481D-E	High-efficiency filter 90	MMD-UP0481HFP-E		High-efficiency filter 65
	TCB-UHF1281D-E	High-efficiency filter 90	MMD-UP0721HFP-E1 to MMD-UP1281HFP-E1		High-efficiency filter 90
	TCK-LK1401D-E	Stand alone long life prefilter	MMD-UP0481HFP-E		Drain pump kit
	TCK-LK2801DP-E	Stand alone long life prefilter	MMD-UP0721HFP-E1 to MMD-UP1281HFP-E1		
	TCK-LK1401D-E	High efficiency long life prefilter	MMD-UP0481HFP-E		
	TCK-PF1281DF-E	High efficiency long life prefilter	MMD-UP0721HFP-E1 to MMD-UP1281HFP-E1		
Drain pump kit	TCB-FC0481DF-E	Filter chamber	MMD-UP0481HFP-E		
	TCB-FC1281DF-E	Filter chamber	MMD-UP0721HFP-E1 to MMD-UP1281HFP-E1		
	TCB-DP40DFP-E	Drain pump kit	MMD-UP0721HFP-E1 to MMD-UP1281HFP-E1		

## Fresh air duct embedded connectors

CN32	CN60	CN61	CN70	CN73	CN80
Additional ventilation control from remote control	Operation status signal output (cooling, heating, fan, defrost, thermo-on)	External On/Off, operation output and alarm output	Warning symbol on remote control based on signal input. No IDU thermo off	Forced IDU thermo-off based on signal input	Forced IDU thermo-off and IDU lock based on signal input
5HP	*	*	*	*	*
8-14HP	*	TCB-PCUC2E pcb needed	*	TCB-PCUC2E pcb needed	TCB-PCUC2E pcb needed

# TCB-IFDM TA/TF/0-10V DX KIT

&gt;NEW



One product, 3 possibilities: Return air control, air discharge control and 0/10V control. Toshiba DX kit is the ultimate fresh air solution.

CAPACITY      AIR FLOW



8HP < 120HP    Up to 60 000 m³/h

## OUTDOOR UNITS COMPATIBILITY



SMMS-u



SMMS-e &amp; SHRM-e

## LOCAL CONTROLS



RBC-AMSU52-E

VRF DX Coil Controller Unit	TCB-	IFDMX01UP-E	IFDMR01UP-E
Description		Standard DX controller	Advance DX controller with embedded relays
Controllable operation type		TA, DDC, TF	
Outdoor Unit	TA	SMMS-u, SMMS-e & SHRM-e	
	DDC	SMMS-u & SMMS-e	
	TF	SMMS-u	
Capacity coverage*	TA	8 to 120HP	
	DDC	8 to 40HP	
	TF	8 to 40HP	
Maximum Air Flow rate	m³/h	61440	
System Diversity	TA	60 - 110	
	DDC	75 - 100	
	TF	80 - 100	
Operating temperature/humidity	°C / RH	5-52 / 10-80	
Cooling mode "Coil on Air" temperature	TA/DDC °C	15 - 24 WB (18 - 32 DB)	
	TF °C	10 - 32 WB (19 - 46 DB)	
Heating mode "Coil on Air" temperature	TA/DDC °C	12 - 28 DB (Pull down to 7°C)	
	TF °C	-10 / 15 DB	
Dimensions (HxWxD)	mm	420 x 330 x 122	
Weight	kg	4	4.1
Appearance		Zinc hot dipping steel plate	
Power supply		220 - 240V 1 50Hz	
Included sensors		TA, TC1, TC2, TCJ, TF with 7.5m lead wire**	

\* SMMS-e/SHRM-e : only 8 & 10HP

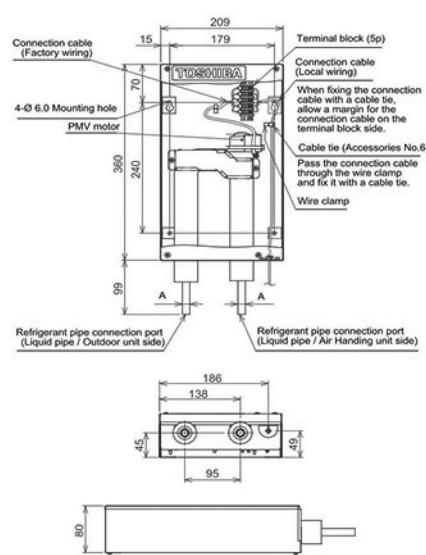
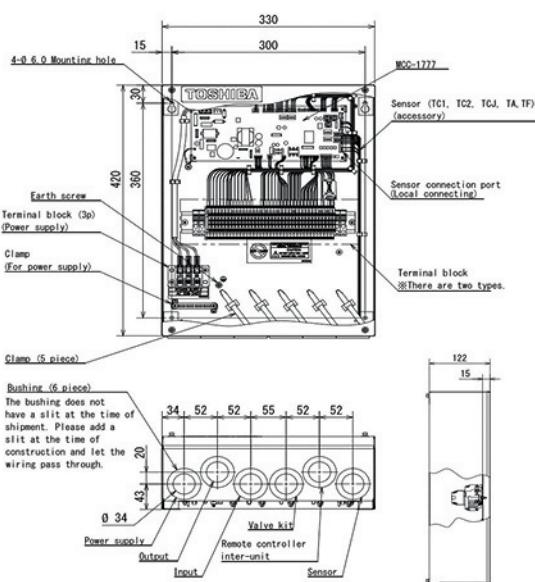
Combinations needed for capacities >20HP

\*\* TCB-IFDES1001P-E 10m lead wire sensor available as an option

VRF DX PMV valve unit	RBMs-	A101UPVA-E	A201UPVA-E
Capacity	HP	8 10 12 14 16 18 20	
	kW	22.4 28.0 31.5 37.5 45.0 50.4 56.0	
Dimensions (HxWxD)	mm	360 x 209 x 80	
Weight	kg	2.3	2.4

## Drawings

Unit: mm



Model	A (pipe)
RBM-A101UPVA-E	1/2"
RBM-A201UPVA-E	5/8"

## Capacity table

Nominal Capacity	Rated cooling capacity	Rated heating capacity	VRF DX Coil controller	VRF DX Coil valve kit	Heat exchanger number	DX coil type	DX coil internal volume (cc)		Recommended liquid capillary	Air volume flow rate (m³/h)
							Min	Max		
							mm	Std		
8	22.4	25	TCB-IFDMX01UP-E TCB-IFDMR01UP-E	RBM-A101UPVA-E RBM-A201UPVA-E	1	Normal	3400	4600	3600	
10	28	31.5			1	Normal	4250	5750	4200	
12	33.5	37.5			1	Normal	5100	6900	5300	
14	40	45			1	Normal	5950	8050	6140	
16	45	50			1	Normal	6800	9200	7200	
			2 (8+8)	2	-	2	Interlaced / Split face			
18	50.4	56			1	Normal	7650	10350	7800	
			2 (10+8)	2	-	2	Interlaced / Split face			
20	56	63			1	Normal	8500	11500	8400	
			2 (10+10)	2	-	2	Interlaced / Split face			
22	61.5	69			2	Interlaced / Split face	9350	12650	9520	
			2 (12+12)	2	-	2	Interlaced / Split face			
			1	2	-	1	Normal			
24	67	75			2	Interlaced / Split face	10200	13800	10370	
			2 (12+12)	2	-	2	Interlaced / Split face			
			3 (8+8+8)	3	-	3	Interlaced / Split face			
26	72.8	81.5			3	Interlaced / Split face	11050	14950	11210	
			3 (10+8+8)	3	-	3	Interlaced / Split face			
			1	-	2	1	Normal			
28	50	90			2	Interlaced / Split face	11900	16100	12060	
			2 (14+14)	-	2	2	Interlaced / Split face			
			3 (10+10+8)	3	-	3	Interlaced / Split face			
30	54	94.5			3	Interlaced / Split face	12750	17250	12900	
			3 (10+10+10)	3	-	3	Interlaced / Split face			
			1	-	2	1	Normal			
32	90	100			2	Interlaced / Split face	13600	18400	14400	
			2 (16+16)	-	2	2	Interlaced / Split face			
34	95.4	106			2	Interlaced / Split face	14450	19550	14590	
			2 (18+16)	-	2	2	Interlaced / Split face			
			1	-	2	1	Normal			
36	101	113			2	Interlaced / Split face	15300	20700	14600	
			2 (18+18)	-	2	2	Interlaced / Split face			
38	106.4	119			2	Interlaced / Split face	16150	21850	16280	
			2 (20+18)	-	2	2	Interlaced / Split face			
40	112	126			1	Normal	17000	2000	16800	
			2 (20+20)	-	2	2	Interlaced / Split face			
42	120	135			3	Interlaced / Split face	17850	24150	17970	
			3 (14+14+14)	-	3	3	Interlaced / Split face			
44	125	140			3	Interlaced / Split face	18700	25300	18820	
			3 (16+14+14)	-	3	3	Interlaced / Split face			
46	130	145			3	Interlaced / Split face	19550	26450	19660	
			3 (16+16+14)	-	3	3	Interlaced / Split face			
48	140.4	156			4	Interlaced / Split face	20400	27600	20400	
			2 (24+24)	-	2	2	Interlaced / Split face			
			3 (16+16+16)	-	3	3	Interlaced / Split face			
50	140.4	156			3	Interlaced / Split face	21250	28750	21350	
			3 (18+16+16)	-	3	3	Interlaced / Split face			
52	145.8	162			3	Interlaced / Split face	22100	29900	22200	
			3 (18+18+16)	-	3	3	Interlaced / Split face			
54	151.2	168			3	Interlaced / Split face	22950	31050	23400	
			2 (28+28)	-	4	2	Interlaced / Split face			
56	160	180			3	Interlaced / Split face	23800	32200	23890	
			3 (20+18+18)	-	3	3	Interlaced / Split face			
			4 (14+14+14+14)	-	4	4	Interlaced / Split face			
58	16.4	182			3	Interlaced / Split face	24650	33350	24730	
60	168	189			3	Interlaced / Split face	25500	34500	25200	
62	175	195			4	Interlaced / Split face	26350	35650	9.52 or less	
			4 (16+16+16+14)	-	4	4	Interlaced / Split face			
64	180	200			2	Interlaced / Split face	2720	36800	27270	
			2 (32+32)	-	4	2	Interlaced / Split face			
66	185.4	206			4	Interlaced / Split face	28050	37950	28110	
68	190.8	212			4	Interlaced / Split face	28900	39100	28950	
70	196.2	218			4	Interlaced / Split face	29750	40250	29800	
			2 (36+36)	-	4	2	Interlaced / Split face			
72	202	226			4	Interlaced / Split face	30600	41400	30640	
74	207.2	231			4	Interlaced / Split face	31450	42550	31490	
76	212.8	238			4	Interlaced / Split face	32300	43700	32330	
78	218.4	245			4	Interlaced / Split face	33150	44850	33180	
80	224	252			4	Interlaced / Split face	34000	46000	34020	
			4 (20+20+20+20)	-	4	4	Interlaced / Split face			
82	23.4	256			5	Interlaced / Split face	34850	47150	34870	
			5 (18+16+16+16+16)	-	5	5	Interlaced / Split face			
			3 (28+28+28)	-	6	3	Interlaced / Split face			
84	240	270			5	Interlaced / Split face	35700	48300	35710	
			5 (18+18+16+16+16+16)	-	5	6	Interlaced / Split face			
			6 (14+14+14+14+14+14)	-	6	6	Interlaced / Split face			
86	241.2	268			5	Interlaced / Split face	36550	49450	36560	
88	246.6	274			5	Interlaced / Split face	37400	50600	37400	
90	252	280			5	Interlaced / Split face	38250	51750	38250	
92	257.6	287			5	Interlaced / Split face	39100	52900	39090	
94	263.2	294			5	Interlaced / Split face	39950	54050	39940	
			3 (32+32+32)	-	6	3	Interlaced / Split face			
96	270	300			5	Interlaced / Split face	40800	55200	40780	
			6 (16+16+16+16+16+16)	-	6	6	Interlaced / Split face			
98	274.4	308			5	Interlaced / Split face	41650	56350	41630	
100	280	315			5	Interlaced / Split face	42500	57500	42470	
102	286.2	318			6	Interlaced / Split face	43350	58650	43320	
104	291.6	324			6	Interlaced / Split face	44200	59800	44160	
106	297	330			6	Interlaced / Split face	45050	60950	45010	
108	303	339			6	Interlaced / Split face	45900	62100	45850	
			6 (18+18+18+18+18+18)	-	6	6	Interlaced / Split face			
110	308	343			6	Interlaced / Split face	46750	63250	46700	
112	313.6	350			6	Interlaced / Split face	47600	64400	47540	
114	319.2	357			6	Interlaced / Split face	48450	65550	48390	
116	324.8	364			6	Interlaced / Split face	49300	66700	49280	
118	330.4	371			6	Interlaced / Split face	50150	6850	50080	
120	336	378			6	Interlaced / Split face	51000	69000	50920	

Cooling & Heating output figures are based on calculations and 'general' test data. All figures are to be taken as approximations. The properties of the 3rd Party DX Coil will have an effect on the performance of the Outdoor units.  
The DX Coil must be suitable for R410A.  
The design should allow operation as both an Evaporator and a Condenser (Features: Multiple circuits / Liquid Capillary Distributor / Gas Header).  
The standard Air volume flow rate is a guideline. The required capacity should determine DX-Interface size selection.

The counter flow principle must be observed for the DX coil design  
A Drain Pan must be fitted (even if only used in Heat mode) due to defrost cycles  
It is recommended to fit droplet eliminator plates in the discharge air stream if used in Cool mode.  
1:1 Connection: The DX Interface (0-10V) must be connected 1:1 with Toshiba outdoor units.  
Only Heating and Cooling Modes are available on the RBC-DXC031 (No Automatic or Fan Only).

# MM-DXC

## STANDARD DX KIT



Built an efficient and reliable ventilation system managed by Toshiba remote controller mixing third party AHU, DX coil and Toshiba VRF system.

CAPACITY      AIR FLOW



2 HP < 60 HP   Up to 30,000m³/h

### OUTDOOR UNITS



Side Blow  
& Mini SMMS-e



SMMS-u



SHRM-e

### LOCAL CONTROLS



RBC-AMTU31-E  
RBC-AMSU51E-EN/ES

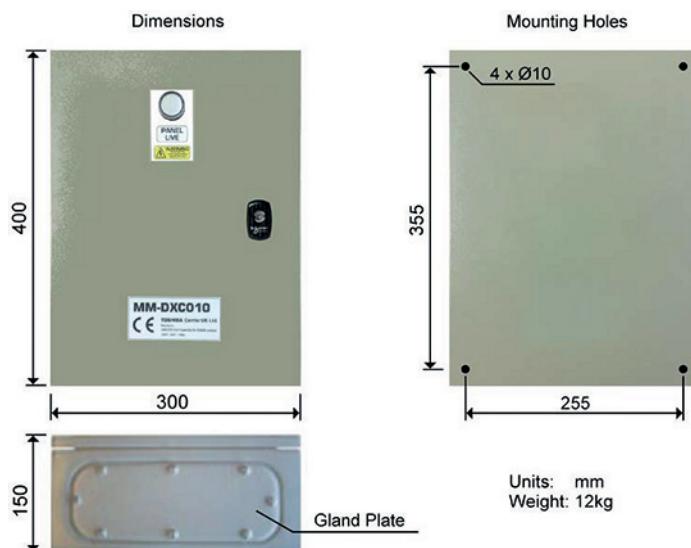
### Features

DX controller unit	MM-	DXC010 VRF DX COIL CONTROLLER (Individual / Header)	DXC012 VRF DX COIL CONTROLLER (Follower)
Dimensions (HxWxD)	mm	400 x 300 x 150	400 x 300 x 150
Weight	kg	8	7.6
Standard rating	IP	65	65
Operating temperature/Humidity	°C / RH	5-40 / 10-90	5-40 / 10-90
Operating range - Cooling coil «Air on» temp	°C	15°CWB±24°CWB	15°CWB±24°CWB
Operating range - Heating coil «Air on» temp	°C	15°CDB±28°CDB	15°CDB±28°CDB
Power supply	V-ph-Hz	220/240-1-50	220/240-1-50

DX valve kit	MM-	DXV080	DXV140	DXV280
Nominal capacity		5.6kW. 7.1kW. 8.0kW 1.7 - 3.2 HP	11.2kW. 14.0kW. 16.0kW 4 - 6HP	22.4kW. 28.0kW 8 - 10 HP
Dimensions	mm		155 x 155 x 185	
Weight	kg		0.9kg	
Integrated components		TA,TC1,TC & TCJ sensors. PMV sensor holder 4 & 6 mm. fix plate, strainer and P clamp (For TA)		

### Drawings

Unit: mm



## STANDARD DX KIT

## Capacity table

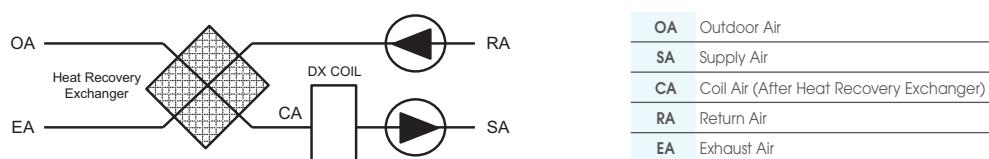
Capacity in HP	VRF DX Coil controller (Individual/Header)	VRF DX Coil Controller (Follower)	VRF DX Coil valve kit			Nominal capacity (kW)		DX coil internal volume (cc)		Recommended liquid capillary	Air volume flow rate (m³/h)		
	MM-DXC010	MM-DXC012	MM-DXV080	MM-DXV140	MM-DXV280	Cool	Heat	Min	Std	Max	mm	Std	
All models	2	1		1		5.6	6.3	850	1000	1150	3.2 ~ 3.5	900	
	2.5	1		1		7.1	8	1063	1250	1438	3.5 ~ 4	1320	
	3	1		1		8	9	1275	1500	1725	3.5 ~ 4	1320	
	3.2	1		1		9	10	1360	1600	1840	3.5 ~ 4	1320	
	4	1			1	11.2	12.5	1700	2000	2300	4.5 ~ 5	1600	
	5	1			1	14	16	2125	2500	2875	5 ~ 5.5	2100	
	6	1			1	16	1	2550	3000	3450	5.5 ~ 6	2800	
	8	1				1	2.4	25	3400	4000	4600	6.5 ~ 7	3600
	10	1				1	28	31.5	4250	5000	5250	7 ~ 8	4200
	12	1	1		2	33.5	37.5	5100	6000	6900		5600	
SMMSu	14	1	1		1	40	45	5950	7000	8050		6400	
	16	1	1		2	45	50	6800	800	9200		7200	
	18	1	1		2	50.4	56	7650	9000	10350		7800	
	20	1	1		2	56	63	8500	10000	11500		8400	
	22	1	2		1	61.5	64	9350	11000	12650		10000	
	24	1	2		3	67	75	10200	12000	13800		10800	
	26	1	2		3	73.5	82.5	11050	13000	14950		11400	
	28	1	2		3	78.5	87.5	11900	14000	16100		12000	
	30	1	2		2	85	95	12750	15000	17250		12600	
	32	1	3		4	90	100	13600	16000	18400		14400	
SHRMe	34	1	3		4	95.4	106.5	14450	17000	19550		15000	
	36	1	3		4	101	113	15300	18000	20700		15600	
	38	1	3		4	106.5	114	16150	19000	21850		16200	
	40	1	3		4	112	126	17000	20000	23000		16800	
	42	1	4		5	117.5	127	17850	21000	24150		18600	
	44	1	4		5	123	128	18700	22000	25300		19200	
	46	1	4		5	130	145	19550	23000	26450		19800	
	48	1	4		5	135	150	20400	24000	27600		20400	
	50	1	4		5	140.4	156	21250	25000	28750		21000	
	52	1	4		6	146	163	22100	26000	29900		22800	
DX-Cells > 10HP must be designed with multiple sections each 10HP or less. These pathways must have dedicated Headers and liquid capillary distributors. Therefore recommended sizes only needed for 2 - 10HP.	54	1	5		6	151.5	164	22950	27000	31050		23400	
	56	1	5		6	157	176	23800	28000	32200		24000	
	58	1	5		6	162.5	177	24650	29000	33350		24600	
	60	1	5		6	168	178	25500	30000	34500		25200	
	12	1	1	2		33.5	37.5	5100	6000	6900		5600	
	14	1	1	1	1	40	45	5950	7000	8050		6400	
	16	1	1		2	45	50	6800	800	9200		7200	
	18	1	1		2	50.4	56	7650	9000	10350		7800	
	20	1	1		2	56	58	8500	10000	11500		8400	
	22	1	2		1	61.5	69	9350	11000	12650		10000	
SHRMe	24	1	2		3	68	76.5	10200	12000	13800		10800	
	26	1	2		3	73.5	82.5	11050	13000	14950		11400	
	28	1	2		3	80	90	11900	14000	16100		12000	
	30	1	2		2	85	95	12750	15000	17250		12600	
	32	1	3		4	90.4	101.4	13600	16000	18400		14400	
	34	1	3		4	95.4	106.5	14450	17000	19550		15000	
	36	1	3		4	100.8	113	15300	18000	20700		15600	
	38	1	3		4	106.5	114.5	16150	19000	21850		16200	
	40	1	3		4	112	126	17000	20000	23000		16800	
	42	1	4		5	120	135	17850	21000	24150		18600	

Cooling Capacity Conditions (Indoor 27 °Cdb / 19 °Cwb & Outdoor 35 °Cdb) at Standard Air Flow rate  
 Heating Capacity Conditions (Indoor 20 °Cdb & Outdoor 7 °Cdb / 6 °Cdb) at Standard Air Flow rate  
 DX-Cools > 10HP must be designed with multiple pathways each 10HP or less. These pathways must have dedicated Headers and liquid capillary distributors. Therefore recommended sizes only needed for 2 - 10HP.

SHRMe Capacity quoted as nominal cooling and maximum heating.  
 The standard Air volume flow rate is a guideline. The required capacity should determine DX-Interface size selection.  
 Single Port Flow Selectors (3-Series) MUST be used with the DX-Interface. It is not compatible with Multi Port Flow Selector (This limits the maximum SHRMe DX-Interface size to 42HP).

## Other information

- The DX Coil **MUST** be operated within the following limits to ensure reliability:
  - Cooling mode DX coil "air on" temp: Min: 15°C WB (18°CDB) ~ Max: 24°C WB (32°CDB)
  - Heating mode DX coil "air on" temp: Min: 15°C DB ~ Max: 28°C DB
- When used for ventilation, the DX-Coil **MUST** be combined with other equipment such as heat recovery exchanger or heaters / coolers to ensure that the CA limits are not exceeded:



## DX-Coil design

- The DX Coil must be suitable for R410A.
- The design should allow operation as both an evaporator and a condenser (Features: Multiple circuits / Liquid Capillary Distributor / Gas Header).
- The counter flow principle must be observed.
- Design target evaporation temperature: 6.5°C.
- Design target condensation temperature: 52°C.
- A drain pan must be fitted (even if only used in heat mode) due to defrost cycles.
- It is recommended to fit droplet eliminator plates in the discharge air stream if used in cool mode.
- The sensor holders must be brazed on to DX-Coil to ensure accurate temperature sensing.
- DX Coils (>10HP) must be designed with multiple pathways each 10HP or less. These pathways must have dedicated headers and liquid capillary distributors each with the appropriate DX valve kit. These DX-Coils can be Interlaced or split face:-
- Where grouped the header controller (MM-DXC010) must be connected to the largest DX-Coil valve kit.
- AHU fan motor must be interlocked to fan control output.
- Maximum DXCoil U-pipe outer diameter: 12.7 mm (1/2")
- Recommended DX-Coil U-pipe outer diameter: 9.52 mm (3/8")

# RBC-DXC

## 0/10V DX KIT



Control the capacity of the Toshiba VRF system directly from the air handling unit controller to maintain constant fresh air temperature intake inside the building: the ultimate in fresh air solution.

CAPACITY      AIR FLOW



8 HP < 10 HP    Up to 5000m³/h

### OUTDOOR UNITS COMPATIBILITY



SMMS-u

### LOCAL CONTROLS



RBC-ASCU11-E

## Features

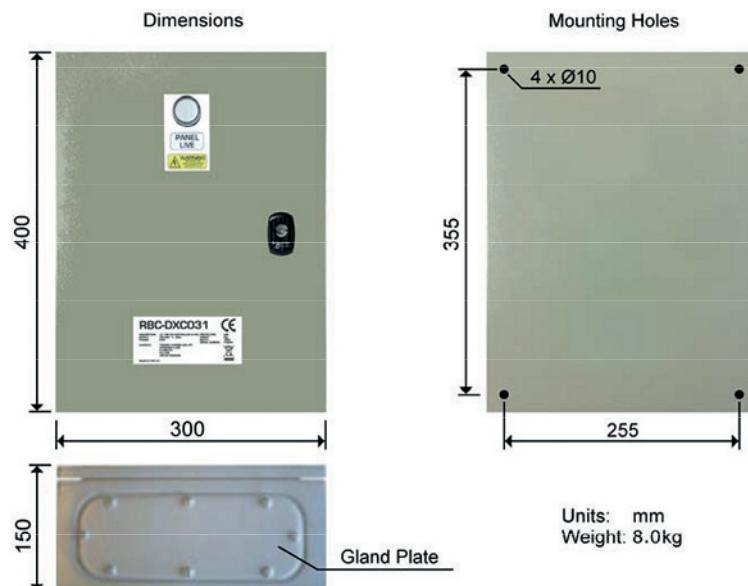
LC / VRF DX Coil Controller Unit	RBC-	DXC031
Minimum air flow rate	m³/h	2310
Maximum air flow rate	m³/h	3960
Dimensions (HxWxD)	mm	400 x 300 x 165
Weight	kg	8
Cable max length (Analogue Input) (Screened cable: 0.5 ~ 1.0 mm²)	m	200
Cable max length (Digital Input) (Non screened cable: 1.5 ~ 2.5 mm²)	m	100
Cable max length (Digital Output) (Non screened cable: 1.5 ~ 2.5 mm²)	m	500
Cable max length (TCC Link) (Screened cable: 1.5 ~ 2.5 mm²)	m	1000
Standard rating	IP	65
Operating temperature/humidity	°C / RH	5-40 / 10-90
Operating range - Cooling coil «Air on» temp	°C	15°CWB÷24°CWB
Operating range - Heating coil «Air on» temp	°C	12°CDB÷28°CDB
System diversity	%	80 - 100
Outdoor Unit		8 & 10HP SMMSu only
Power supply		220 - 240V AC 50Hz

VRF DX coil controller unit	RBC-	DXC031	DXC031	DXC031
VRF DX PMV valve unit	MM-	DXV141	DXV281	DXV281
Cooling capacity	kW	16.0	22.4	28.0
Heating capacity	kW	18.0	25.0	31.5
Capacity code	HP	6.0	8.0	10.0

Heating & Cooling Capacity are guide-line figures. the design of each customer's AHU and DX Coil will have an impact on the actual system performance  
 Cooling Capacity Conditions (Indoor 27 °Cdb / 19 °Cwb & Outdoor 35 °Cdb) at Standard Air Flow rate  
 Heating Capacity Conditions (Indoor 20 °Cdb & Outdoor 7 °Cdb / 6 °Cdb) at Standard Air Flow rate

## Drawings

Unit: mm



## Capacity table

Capacity in HP	Diversity ratio	VRF DX Coil controller (Individual/Header)		VRF DX Coil valve kit		Nominal capacity (kW)				DX coil internal volume (cc)		Recommended liquid capillary		Air volume flow rate (m³/h)	
		RBC-DXC031	MM-DXV141	MM-DXV281		Cool Min	Cool Max	Heat Min	Heat Max	Min	Max	mm	Std		
SMMSe	8	1		1	4.48	22.4	3.75	25	3000	4200	6.5 ~ 7		4300		
	10	80 to 100%	1	1	5.6	28	4.72	31.5	3000	5400	7 ~ 8		5000		

Cooling & Heating output figures are based on calculations and 'general' test data. All figures are to be taken as approximations. The properties of the 3rd Party DX Coil will have an effect on the performance of the Outdoor units.

The DX Coil must be suitable for R410A.

The design should allow operation as both an Evaporator and a Condenser (Features: Multiple circuits / Liquid Capillary Distributor / Gas Header).

The standard Air volume flow rate is a guideline. The required capacity should determine DX-Interface size selection.

The counter flow principle must be observed for the DX coil design. A Drain Pan must be fitted (even if only used in Heat mode) due to defrost cycles. It is recommended to fit droplet eliminator plates in the discharge air stream if used in Cool mode.

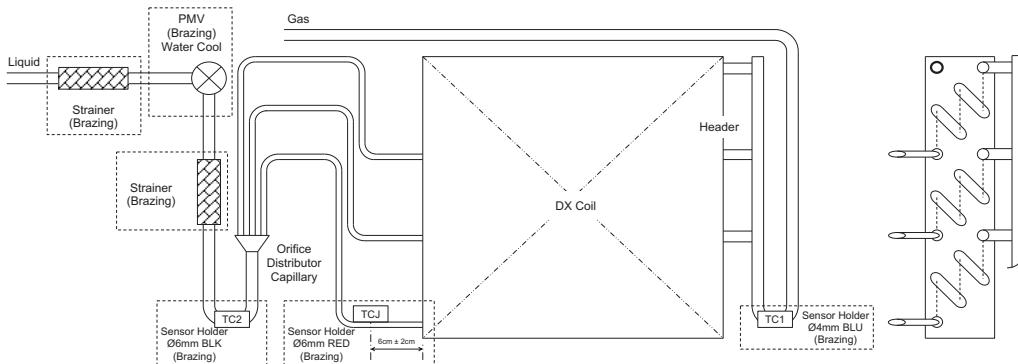
1:1 Connection: The DX Interface (0-10V) must be connected 1:1 with Toshiba outdoor units. Only Heating and Cooling Modes are available on the RBC-DXC031 (No Automatic or Fan Only).

## Inputs and Outputs

	Terminal block	Description	Type	Remarks	
Input	TB4 & 5	Capacity demand	Analog input		0/10V
	TB6 & 7	On /Off	Digital input		
	TB8 & 9	Mode input	Digital input		
	TB14 & 15	Safety contact input	Digital input	NC	
	TB16 & KP1	Fan error input	Digital input	KP1.14_NO	
Output	KP2	Fan Operation	Digital output	KP2.11 & KP2.12_NC / KP2.14_NO	250VAC 6A
	KP3	Alarm output	Digital output	KP3.11 & KP3.12_NC / KP3.14_NO	250VAC 6A
	KP4	Defrost output	Digital output	KP4.11 & KP4.12_NC / KP4.14_NO	250VAC 6A
	KP5	VRF Start-up Control	Digital output	KP5.11 & KP5.12_NC / KP5.14_NO	250VAC 6A
	KP6	VRF Pre-Defrost Active	Digital output	KP6.11 & KP6.12_NC / KP6.14_NO	250VAC 6A
	KP7	Heat Mode Active / Cool Mode Active	Digital output	KP7.11 & KP7.12_NC / KP7.14_NO	250VAC 6A
	TB10 & 11 (SW1_0)	Capacity lower than Capacity Demand	Digital output		
	TB12 & 13 (SW2_0)				
	TB10 & 11 (SW1_1)	Capacity higher than Capacity Demand	Digital output		
	TB12 & 13 (SW2_1)				
	TB10 & 11 (SW1_2)	VRF Cooling Oil Recovery / VRF Heating refrigerant recovery control	Digital output		
	TB12 & 13 (SW2_2)				
	TB10 & 11 (SW1_3)	Cooling Mode Active	Digital output		
	TB12 & 13 (SW2_3)				
	TB10 & 11 (SW1_4)	Heating Mode Active	Digital output		
	TB12 & 13 (SW2_4)				

## Other information

VRF DX Coil Schematic



## Notes:

- 1) The PMV must be water cooled whilst brazing, to prevent damage to the mechanism.
- 2) To ensure reliable operation, all Sensor Holders must be fitted by brazing.
- 3) The TCJ Sensor Holder must be brazed to the capillary on the DX Coil's lowest circuit.
- 4) For brazing, be sure to use nitrogen gas to avoid oxidation of pipe inner surface.



With the mid temperature hot water module, produce hot water in addition of cooling and heating.

CAPACITY	HOT WATER	SOUND PRESSURE LEVEL
 8kW > 16kW	 Max 50°C	 25dB(A)

## OUTDOOR UNITS COMPATIBILITY



MINI SMMS-e  
8/10HP

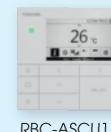


SMMS-u &  
SHRM Advance



SMMS-e &  
SHRM Advance

## LOCAL CONTROLS



RBC-ASCU11-E  
RBC-AMTU31-E  
RBC-AMSU52-E

## Features

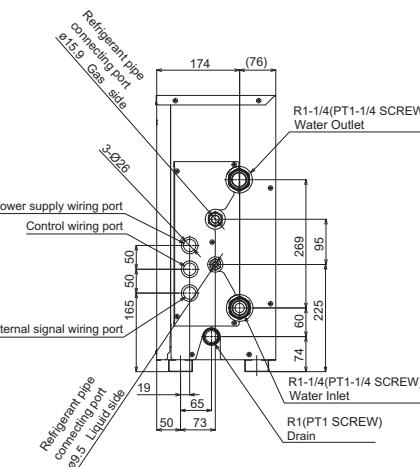
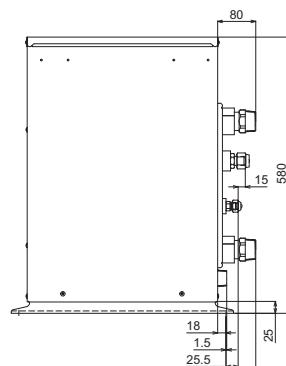
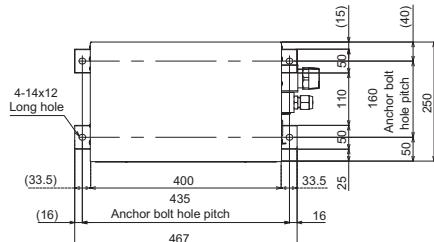
Model	MMW-	UP0271LQ-E	UP0561LQ-E
Heating capacity *1	kW	8.0	16.0
Electrical characteristics	Power supply *2	1 phase 50 Hz 230 V (220 - 240 V)	
	Running current	A	0.08
	Power consumption	W	14
Appearance	Zinc hot dipping steel plate		
Dimensions	Unit	HxL(leg included)xD	mm 580x400(467)x250
Weight	Unit	kg	17.8 20.3
Design pressure	Refrigerant side	MPa	4.15
	Water side	MPa	1.0
Heat exchanger	Plate type heat exchanger		
Heat-insulating material	Polyethylene foam + Polyurethane foam		
Water flow rate	Standard	L/min	22.9 45.8
	Min.	L/min	19.5 38.9
Water pressure loss (at standard water flow rate)	kPa 40.5 44.2		
Controller	Remote controller		
Operation range	Ambient	indoor	CDB 5 - 32
		Allowable dew point	CWB 23 or less
		RH(%)	30 - 85
		Outdoor (at heating) MINI SMMS-e	CDB -20 - 21
		CWB	-20 - 15
		Outdoor (at heating) SHRM-e	CDB -25 - 40
		CWB	-25 - 28
	Water inlet side	Outdoor (at heating) SMMS-u & SHRM Advance	CDB -25 - 21
		CWB	-25 - 19
		C	15 or more and 45 or less
	Water outlet side	C	25 - 50
Water filter	Strainer with Mesh 30 to 40 (procured locally)		
Connecting pipe	Water pipe	Inlet	R1 - 1/4
		Outlet	R1 - 1/4
	Refrigerant pipe	Gas pipe	inch 15.9 flare connection
		Liquid pipe	inch 9.5 flare connection
		Drain pipe	R1
Sound pressure level	dB(A) 25		
Sound power level	dB(A) 25		
Installation place	Indoor		

\*1: Rated conditions: inlet water temp. 30 °C outlet water temp. 35 °C Outdoor air temp. 7 °CDB / 6 °CWB The standard piping means that mean pipe length is 5 m, branching pipe length is 2.5 m of branching piping connected with a 0 meter height.

\*2: The source voltage must not fluctuate more than  $\pm 10\%$

\*3: The unit is packed in a sideways state.

## Drawings



Unit: mm

## MID TEMPERATURE HOT WATER MODULE

## Allowable length / height difference of refrigerant piping

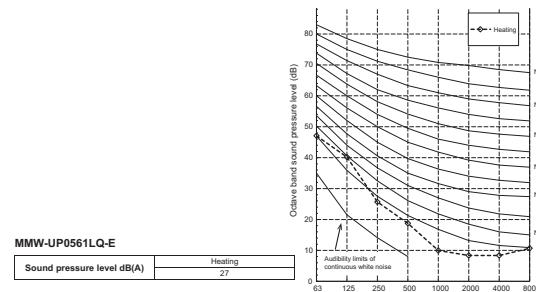
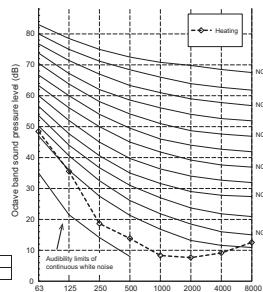
		Mini SMMSe 8/10HP (without PMV kit)	SMMSu	SHRMe	SHRM Advance
Piping length	Total extension of pipe (Liquid pipe, real length)	Below 34HP 34HP or more	300m 1200m	500m 1000m	300m 500m -
	Farthest piping length	Equivalent length Real length	150m 120m	250m 210m	200m 180m 190m 165m
	Equivalent length of farthest piping from 1 <sup>st</sup> branching	Height difference between IDU >3m Height difference between IDU >3m	40m	65m 90m	50m 65m 50m
	Equivalent length of farthest piping between outdoor units			40m	15m 25m
	Max equivalent length of main piping	Height difference between IDU >3m	80m	120/100m 120/100m	100/85m 120/100m 65/50m
	Max. equivalent length of outdoor unit connecting piping			10m	10m -
	Max. real length of indoor unit connecting piping		15m	30m	30m 50m
	Max. equivalent length between branches			50m	50m 50m
	Maximum real length of terminal branching section to indoor units	Single port type Multi port type			15m 50m -
	Maximum equivalent length between branching section				50m 50m
Difference in height	Height between indoor and outdoor units	Upper outdoor unit Lower outdoor unit	10m 10m	70m 40m	70m 30m 40m
	Height between indoor units	Upper outdoor unit Lower outdoor unit	15m 10m	3m* 10m*	40m 40m 15m 15m
	Height between HWM	Upper outdoor unit Lower outdoor unit	10m 10m	3m 15m	40m 40m 15m 15m
	Height between indoor units and HWM	Upper outdoor unit Lower outdoor unit	10m 10m	3m* 10m*	40m 40m 15m 15m
	Height between outdoor units			5m	5m -
	Maximum equivalent length indoor units in group controlled by one single port flow selector unit				30m
	Maximum real length between flow selector unit and indoor unit	Single port type Multi port type			15m 50m
	Height difference between indoor units in group controlled by one flow selector unit				0.5m

\* 40m if hot water module and indoor units are not operating at the same time.

## Diversity and connectivity restrictions

		Mini SMMS-e 8/10HP	SMMS-u	SHRM-e	SHRM Advance
Indoor connection capacity	Total	Standard indoor unit + M-HWM	80 - 200%	65 - 115%	90 - 135%
	Allowed capacity	Standard indoor unit M-HWM	80 - 130% 0 - 100%	50 - 115% 0 - 50%	50 - 120% 0 - 67.5%
Number of combined indoor units and M-HWM	Total	Standard indoor unit + M-HWM	8HP 2 - 12 10HP 2 - 16	2 - 128	2 - 32 2 - 54
	Allowed number	Standard indoor unit M-HWM	0 - 4	0 - 2	0 - 14 0 - 6

## Sound pressure levels



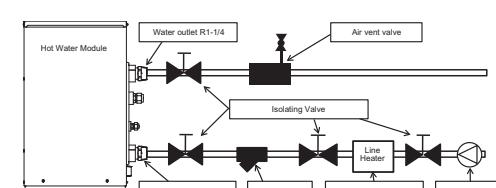
Unit: dB(A)

## Other information

## Water piping and line heater installation

- Make the piping route a closed circuit. (An open water circuit may cause a failure.)
- Before a long period of non-use, purge the water out of the pipes and thoroughly let them dry.
- Do not add brine to the circulating water.
- Do not use the water used for the unit for drinking or food manufacturing.
- To ensure easy maintenance, inspection, and replacement of the unit, use a proper joint, valve, etc. (procured locally) on the water inlet and outlet port.
- Be sure to install a strainer with 30 to 40 meshes (procured locally) on the water inlet pipe. If a strainer is not installed, this may cause impaired performance or damage to the plate heat exchanger from freezing.
- Install a suitable air vent (procured locally) on the water pipe. After sending water through the pipe, be sure to vent the excess air.
- To avoid water leak, wrap some sealing tape around the screw part.
- Water pipes can get very hot, depending on the preset temperature. Wrap the water pipes with heat insulation (procured locally) to prevent burns.
- Be sure to install the line heater (procured locally) on the water inlet side. In addition, position it within 5 m of the water inlet pipe of the Hot Water Module.
- Follow capacity table to select a line heater (procured locally) within the range of 40 to 50% of the Hot Water Module's rated capacity.

Hot Water Module model name	Capacity of line heater (kW)
MMW-UP0271LQ-E	3.2~4.0
MMW-UP0561LQ-E	6.4~8.0



# MMW-AP\_CHQ

## HIGH TEMPERATURE HOT WATER MODULE



In addition to the standard simultaneous heating and cooling function of the SHRM-e system, it is now possible with the new Toshiba high temperature hot water module, to produce hot water up to 85°C, whilst still retaining the comfort operation of the indoor units.

CAPACITY	HOT WATER
5HP	82°C



### Features

Model	MMW-AP0481CHQ-E		
Heating capacity *1	kW		
Electrical characteristics	Power supply *2	14.0	
	Running current (max)	A	1 phase 50 Hz 220-240 V
	Power consumption (max)	kW	17.5
Appearance		4.15	
Dimensions	HxWxD (leg included)	mm	Zinc hot dipping steel plate
Weight	Unit	kg	700x900x320(400)
Design pressure	Refrigerant (R410A) side	MPa	100
	Refrigerant (R134a) side	MPa	3.73
	Water side	MPa	4.15
			1.0
Heat exchanger (Water)		Plate type heat exchanger	
Heat exchanger (Cascade)		Plate type heat exchanger	
Heat-insulating material		Polyethylene foam + Polyurethane foam	
Water flow rate	Standard	L/min	40
	Max - Min.	L/min	46 - 34
Water pressure loss (At standard water flow rate)		kPa	15
Control method		Wired remote controller (Option)	
Operation range	indoor	°CDB	+5 / +32
	Ambient couvre Indoor, allowable and Outdoor	°CWB	+ 23 or less
	Allowable dew point	RH(%)	+30 / +85
	Outdoor (At heating) SHRM-e	°CDB	-25 / +40 (*3)
		°CWB	-25 / +28 (*3)
	Water outlet side	°C	+50 / +82
Water filter		Strainer with mesh 30 to 40 (Procured locally)	
Connecting pipe	Water pipe	Inlet	R1-1/4
		Outlet	R1-1/4
	Refrigerant pipe	Gas pipe	5.8" flare connection
		Liquid pipe	3/8" flare connection
	Drain nipple	mm	ID 15
Sound pressure level *1		dB(A)	44
Sound power level *1		dB(A)	60
Refrigerant	type/charge	kg / TCO <sub>2</sub> eq	R134A 2.1/3
Installation place			Indoor

\*1 Rated conditions: entering condenser water temp. 60°C leaving condenser water temp. 65°C Outdoor air temp. 7°CDB / 6°CWB

The standard piping means that main pipe length is 5 m, branching pipe length is 2.5 m of branch piping connected with a 0 meter height.

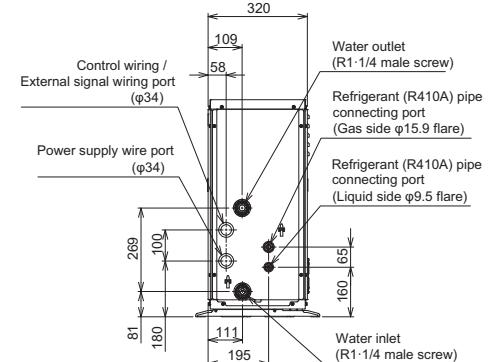
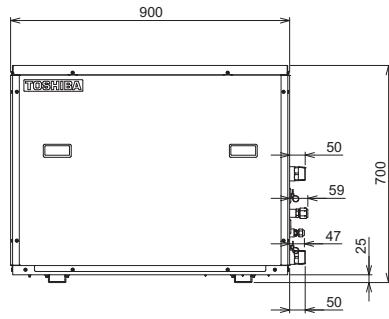
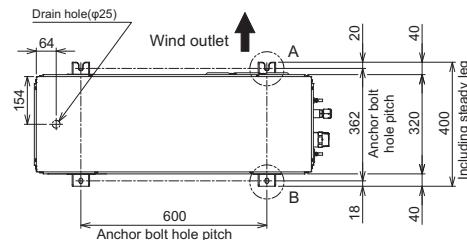
\*2 The source voltage must not fluctuate more than ±10%.

\*3 Low ambient heating (-20°C or less) for extended periods of time is not allowed.

Model name of usable Flow Selector unit: RBM-Y1124FE, RBM-Y1804FE, RBM-Y2804FE, RBM-Y1801F6PE, RBM-Y1801F4PE

### Drawings

Unit: mm



## HIGH TEMPERATURE HOT WATER MODULE

## Piping rules

		SHRMe
Piping length	Total extension of pipe (Liquid pipe, real length)	Below 34HP 34HP or more
	Farthest piping length	Equivalent length Real length
	Equivalent length of farthest piping from 1st branching	High difference between IDU >3 m High difference between IDU ≤ 3m
	Equivalent length of farthest piping between outdoor units	15m
	Max equivalent length of main piping	High difference between IDU > 3m High difference between IDU ≤ 3m
	Max. equivalent length of outdoor unit connecting piping	10m
	Max. real length of indoor unit connecting piping	30m
	Max. equivalent length between branches	50m
	Maximum real length of terminal branching section to indoor units	Single port type Multi port type
	Maximum equivalent length between branching section	Upper outdoor unit
Difference in height	Height between indoor and outdoor units	Upper outdoor unit Lower outdoor unit
	Height between indoor units	Upper outdoor unit Lower outdoor unit
	Height between HWM	Upper outdoor unit Lower outdoor unit
	Height between indoor units and HWM	Upper outdoor unit Lower outdoor unit
	Height between outdoor units	5m
In case of 4serie flow selector connection to indoor units	Maximum equivalent length indoor units in group control by one single port flow selector unit	30m
	Maximum real length between flow selector unit and indoor unit	Single port type Multi port type
	Height difference between indoor units in group control by one flow selector unit	0.5m

## Connectivity restrictions

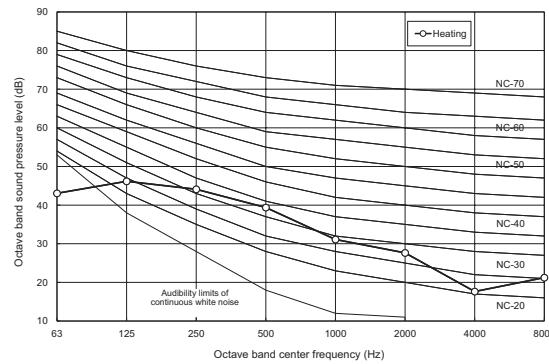
		SHRMe
Indoor connection capacity	Total	Standard indoor unit + M-HWM + H-HWM
	Allowed capacity	Standard indoor unit H-HWM
Number of combined indoor units and M-HWM	Total	Standard indoor unit + M-HWM + H-HWM
	Allowed number	Standard indoor unit H-HWM
		2 - 32

## Sound pressure levels

Unit: dB(A)

MMW-AP0481CHQ-E

Sound pressure level dB(A)	Heating
	44

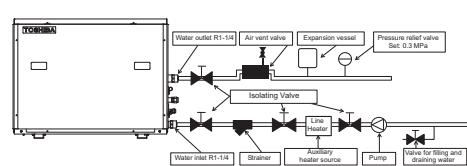


## Other information

## Water piping and line heater installation

- Make the piping route a closed circuit. (An open water circuit may cause a failure.)
- Before a long period of non-use, purge the water out of the pipes and thoroughly let them dry.
- Do not add brine to the circulating water.
- Do not use the water used for the unit for drinking or food manufacturing.
- To ensure easy maintenance, inspection, and replacement of the unit, use a proper joint, valve, etc. (procured locally) on the water inlet and outlet port.
- Be sure to install a strainer with 30 to 40 meshes (procured locally) on the water inlet pipe. If a strainer is not installed, this may cause impaired performance, or damage to the plate heat exchanger from freezing.
- Install a suitable air vent (procured locally) on the water pipe. After sending water through the pipe, be sure to vent the excess air.
- To avoid water leak, wrap some sealing tape around the screw part.
- Water pipes can get very hot, depending on the preset temperature. Wrap the water pipes with heat insulation (procured locally) to prevent burns.
- Be sure to install the line heater (procured locally) on the water inlet side. In addition, position it within 5 m of the water inlet pipe of the Hot Water Module.
- Follow capacity table to select a line heater (procured locally) within the range of 40 to 50% of the Hot Water Module's rated capacity.

Hot Water Module model name	Capacity of line heater (kW)
MMW-AP0481CHQ-E	5.8 ~ 7.2



# WIRELESS SOLUTIONS KEEP CONTROL!



In addition to the high quality of the air conditioners, the controls also play a significant part in the ease-of-use and efficiency of the units. Optimized settings create the perfect climate. As well as local control options, Toshiba also offers a broad selection of central control systems or the option to integrate these in the building control system.

## > ONE CONTROL FOR EVERY USAGE



### Local controls

Cable remote controls (max. cable length 500 m) or wireless infrared remote controls are used to control individual units or groups of up to 8 indoor units. Additional modules allow units to be controlled from any location via apps or the Internet.



### Central controls

VRF systems can be controlled from a preferred central location, such as the reception or plant room. Cable lengths can be max. 2,000 m and up to 512 indoor units can be controlled.



### Building control systems

Toshiba air conditioners can be interlinked with all conventional building control systems. This makes air conditioning an integral part of the central control of a building.

## > WHEREVER YOU ARE



On the cloud with Toshiba AC control app

Locally with standard remote control

Using Toshiba WebBrowser for all your facilities

## > TRUST TOSHIBA TU2C LINK

All control devices are connected to the air conditioner side using Toshiba's dedicated central control network, also called the TU2C LINK. It can be used to directly connect all equipment.

**Wiring:** 2-core, non-polarity

**Type:** Shield wire

**Size/length:**

- 1 to 1.5 mm<sup>2</sup> / Up to 1,000 m

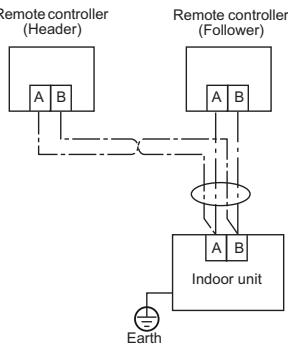
- 2 mm<sup>2</sup> / Up to 2,000 m

## INDIVIDUAL REMOTE CONTROLLER

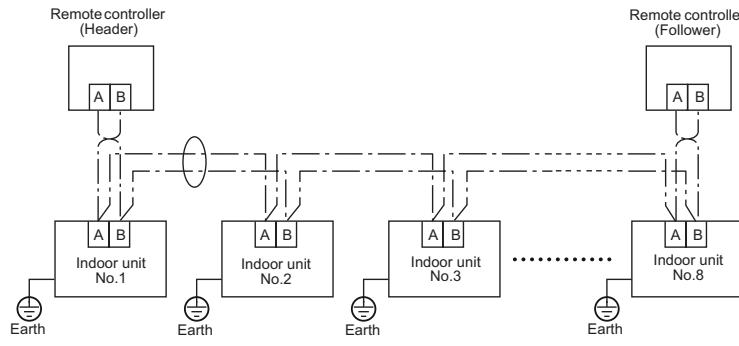
Type	Infrared							Wired				
Part number	RBC-AXU31-E	RBC-AXU31U-E	RBC-AXU33UP-E	RBC-AXU31UM-E	RBC-AXU41U-E	RBC-AXU33YP-E	RBC-AXU31C-E	RBC-ASCU11-E	RBC-AMTU31-E	RBC-AMSU52-E	RBC-AWSU52-E	NRC-01HE
Picture												
Dimensions	Remote 157x56x19mm	Infrared received 120x70x18mm	157x56x19mm	157x56x19mm	157x56x19mm	157x56x19mm	157x56x19mm	86x86x16mm	120x120x16mm	120x120x20mm	120x120x16mm	
Compatibility	All indoor units	4 way cassette	4 way cassette	Compact 4 way cassette	Smart 4 way cassette	1 way cassette	Ceiling	All indoor units	All indoor units	All indoor units	Air to air heat exchanger	
Connectivity	1:1	1:1	1:2	1:1	1:1	1:1	1:1	1:16	1:16	1:16	1:8	
Standard functions	On/Off	•	•	•	•	•	•	•	•	•	•	
	Mode (heat, cool, ventilation, dry, auto)	•	•	•	•	•	•	•	•	•	•	
	Temperature setting	• / 17°C - 30°C	• / 17°C - 30°C	• / 17°C - 30°C	• / 17°C - 30°C	• / 17°C - 30°C	• / 17°C - 30°C	• / 18°C - 29°C				
	Fan speed (auto, manual 5 speed)	•	•	•	•	•	•	•	•	•	•	
	Air direction (swing mode or manual orientation)	•	•	•	•	•	•	•	•	•	•	
	Timer function	•	•	•	•	•	•	•	•	•	•	
	Schedule fonction							•	•	•		
Advanced functions	Return back										•	
	Dual set point										•	
	Soft cooling										•	
	Night operation										•	
	Energy save function										•	
	Frost protection										•	
	Lock function										•	
Installation & maintenance	Summer time										•	
	Room naming										•	
	Filter dirty indication							•	•	•	•	
	Error display	•	•	•	•	•	•	•	•	•	•	
	System settings							•	•	•		
	Indoor unit serial number										•	
Outputs	Error output							•	•	•	•	
	External ventilation control								•	•		
Display & Interface	Interface	Icon	Icon	Icon	Icon	Icon	Icon	Icon	Icon	Menu	Icon	
	Multilanguage										•	
	Luminous buttons										•	
Bluetooth connectivity for comfort control through smartphone app	Backlight display							•			• (with RBC-AWSU52-E)	
Other	Temperature sensor							•	•	•	v	
Communication protocol	TU2C link	TU2C link	TU2C link	TU2C link	TU2C link	TU2C link	TU2C link	TU2C link	TU2C link	TU2C link	TCC Link	

## Installation drawings

## Individual control



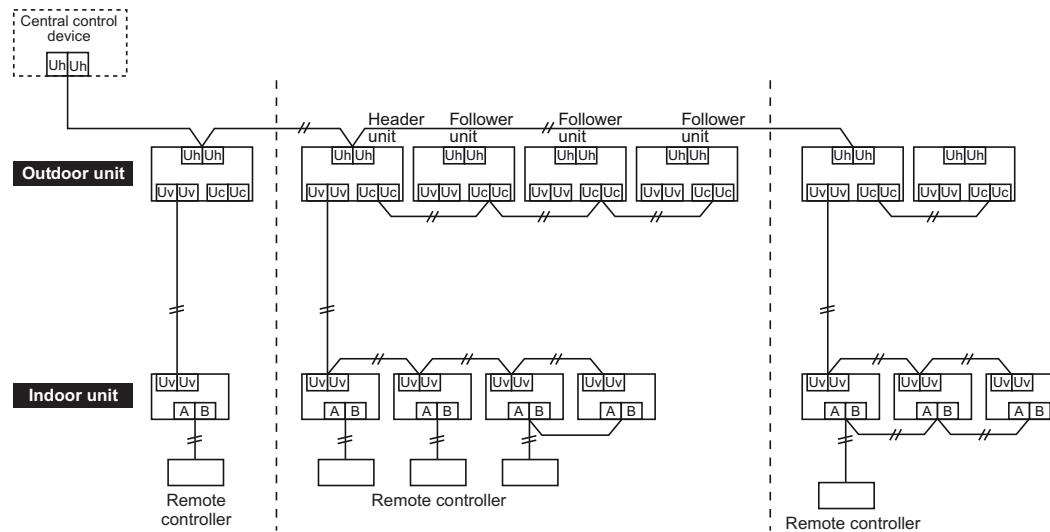
## Group control



\* The Header or Follower remote controller can be connected to any indoor unit.

# CENTRAL CONTROL

	TYPE	WIRED
Part number		TCB-SC640U-E
Picture		
Dimensions (hxwxp)		120x120x16mm
Compatibility		all systems
Connectivity		1:64
Standard function	On/Off Mode (heat, cool, ventilation, dry, auto) Temperature setting Fan speed (auto, manual 5 speeds) Air direction (swing mode or manual orientation)	• • • • •
Scheduling	Timer function Schedule fonction Return back	•
Advanced functions	Dual set point Soft cooling Energy save function Energy monitoring	
Central control	Permit/prohibit function Group control	• •
Installation & maintenance	Filter dirt indication Error display Error transfert by Email System setting	• • • •
Display & interface	Interface Multilanguage Luminous buttons Backlight display	Menu • • •
Outputs	Digital Input/output Web connection	
Communication protocol		TU2C Link

**Drawings****Estia compatibility**

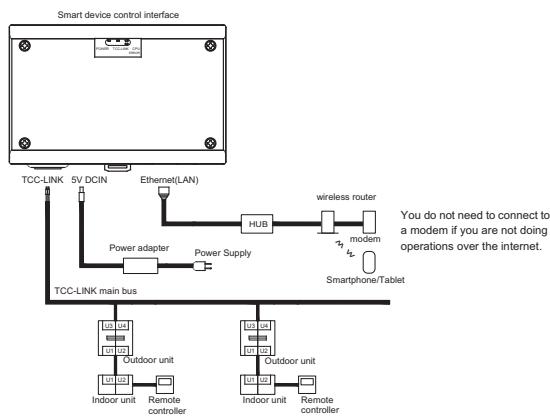
TCB-SC640UE is able to control Estia R32



## CLOUD SOLUTION

Part number	BMS-IWF0320E
App name	Smart Device control interface Toshiba AC control
Picture	
Dimensions (hxwxp)	140x90x45mm
Compatibility	All indoor units (except hot water module, DX kit, fresh air, A2A heat exchanger)
Connectivity	1:32
Standard functions	On/Off Mode (heat, cool, ventilation, dry, auto) Temperature setting Fan speed (auto, manual 5 speed) Air direction (swing mode or manual orientation)
Scheduling	Timer function Schedule fonction Return back
Advanced functions	Energy save function Eco temperature shift Soft cooling Customize room/floor/building name
Central control	Permit/prohibit function Group control
Display & interface	Interface Multilanguage App compatibility Devices compatibility
Installation & maintenance	Filter dirty indication Error display Error transfert by Email
Users	Login & Password 1 admin / 32 users
Communication protocol	TCC Link

## Drawings



## User access

Level	Administrator	User
Function		
Air conditioner's display	•	*1
Air conditioner's settings	•	*1, *2
Users settings	•	-
Alarm	•	- *3
Schedule	•	-
Air conditioner's various settings	•	- *4
Clock settings	• (via intranet acces only)	-
Operation mode restriction	• (via intranet acces only)	-

\*1:Only the air conditioners in the "Access Area" can be displayed.

\*2:If the locking setting is enabled, you cannot do any settings.

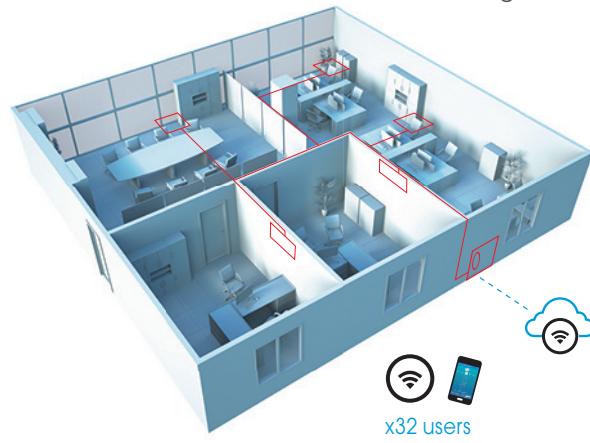
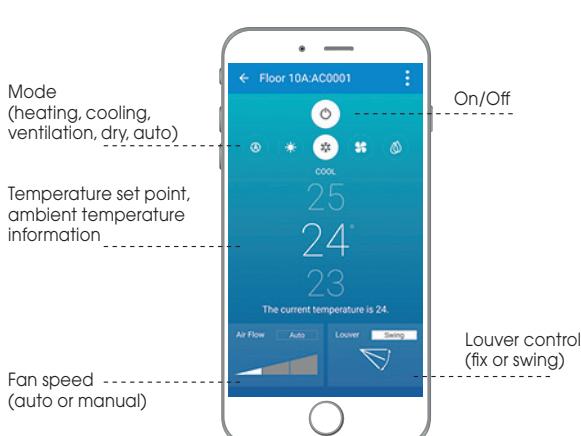
\*3:The alarm settings for "Access Area" can only be displayed.

\*4:The settings can only be displayed.

## Toshiba AC control



Designed for commercial applications, the Toshiba AC Control App is your one-stop solution for managing up to 32 indoor units via an Android or iOS smartphone, with all main functions accessible in a single touch.

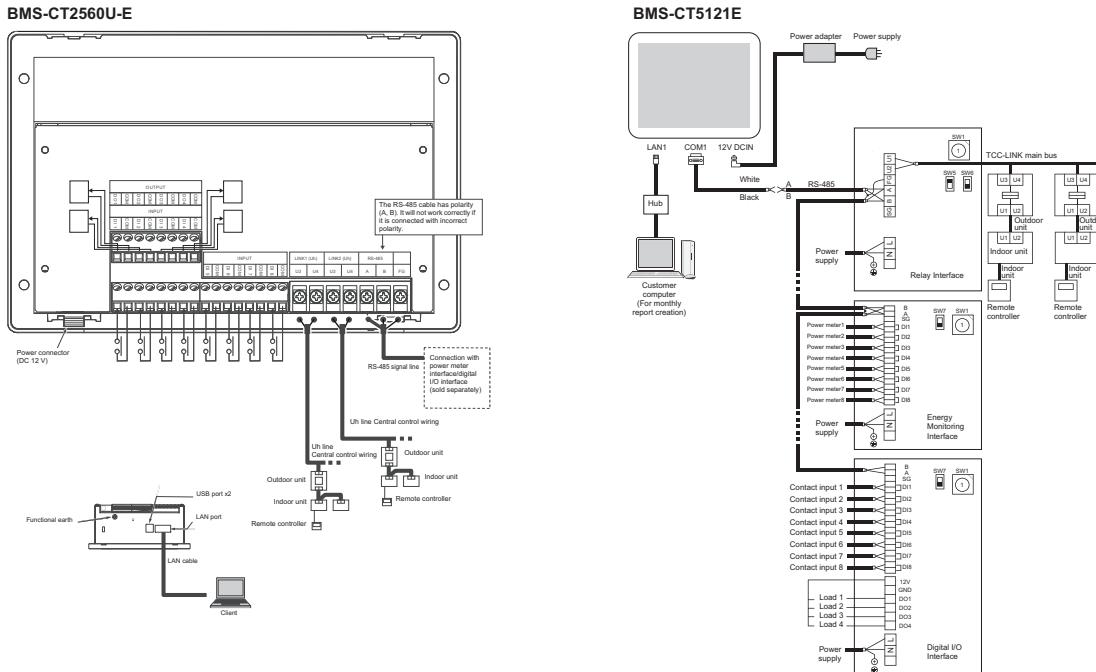


# **TOUCH SCREEN SOLUTIONS**

## Features



## Installation drawings



## ADDITIONAL PCB

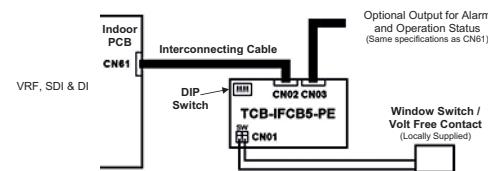
## Additional PCB for outdoor units

Power peak-cut control board			External master ON/OFF control board			Output control board			
Model name									
System	SMMSe/SMMSu	SHRMe/ SHRM Advance	Mini SMMSe	SMMSe/SMMSu	SHRMe/ SHRM Advance	MINI SMMSe	SMMSe/SMMSu	SHRMe/ SHRM Advance	Mini SMMSe
Power peak cut control	•	•	•						
Power peak cut extend	•	•	•						
Snowfall fan control				•	•				
External master ON/OFF control				•	•	•			
Night operation (Sound reduction) control				•	•	•			
Operation mode selection control				•	•	•			
Error/Operation output control							•	•	•
Compressor operation output							•	•	•
Operation rate display							•	•	•
Max number installed	1	1	1	4	4	2	2	2	1
Kind of digital input / output	2 / 1		6 / -			- / 8			

## Additional PCB for indoors units

## &gt; Windows switch sensor TCB-IFCB5PE

Function	Mode / Description	Dip Switch setting
Remote On/Off control application	Remote On-Off signal has full priority	All Bits OFF
	Priority is given to the remote ON signal	Bit 1 ON
	Priority is given to the remote OFF signal	Bit 2 ON
	Last touch priority	Bit 1 & 2 ON
Window switch application	With return back to previous operation	Bit 3 ON
	With no return back function	Bit 4 ON

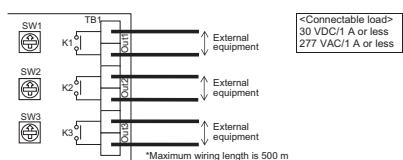


## &gt; Optional connection kit TCB-PCUC2-E

## SIGNAL

## OUTPUT TERMINAL TB1

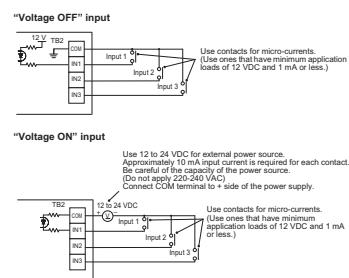
Signal outputs (Mode, fans status, alarm, defrost,...) are extracted from "OUT1", "OUT2", and "OUT3".



## EXTERNAL

## DIGITAL INPUT TERMINAL TB2

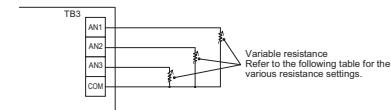
Stop air conditioner or lock local remote by inputting signal.



## EXTERNAL

## ANALOG INPUT TERMINAL TB3

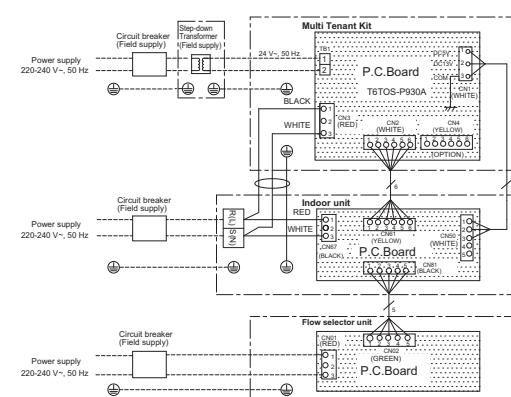
Change the indoor unit's operation mode (AN1), set temperature (AN2), and blower setting (AN3) by connecting a variable resistor to the analog input terminal.



## &gt; Multi tenant kit TCB-PSMT1E

For multi tenant application, this PCB maintains low voltage power during tenant absence when main power supply for the FCU is shut down.

Compatible with 4 series FS box, 4-way Air Cassette, Concealed Duct Standard, Slim Duct, Under Ceiling, Console, High Wall, Concealed Duct High Static Pressure, Floor Standing, Floor Standing Cabinet & Floor Standing Concealed



**Features**

Part number	BMS-IFMBOTLR-E	TCB-IFMB1280U-E	BMS-IFKX0TLR-E	TO-AC-KNX-16	TO-AC-KNX-64	TCB-IFLN642TLE	BMS-IFBN1280U-E	TCB-IFCB640TLE			
Langage	Modbus			KNX		LonWorks		Bacnet			
Picture								Analogue and digital inputs			
Dimensions (hxlwx)	53x86	170x200x66	92x82x33	217x147x90	193x246x66	90x140x45	66x170x200				
Compatibility	All indoor units	All indoor units (HWM, A2A heat exchanger excluded)	All indoor units (HWM, A2A heat exchanger excluded)	All indoor units (HWM, A2A heat exchanger excluded)	All indoor units (HWM, A2A heat exchanger excluded)	All indoor units (HWM excluded)	All indoor units (HWM excluded)	All indoor units			
Connectivity	Max number of indoor units	8	64	8	16	64	64	64			
	Max number of outdoor units		16			16		16			
	Max number of gateways	63	15			10	1				
Command	On/Off	R/W	R/W	R/W	R/W	R/W	R/W	R/W			
	Accumulated operation time		R/W								
	Mode (heat, cool, ventilation, dry, auto)	R/W	R/W	R/W	R/W	R/W	R/W	R/W			
	Temperature setting	R/W (Dual set point supported)	R/W	R/W (Dual set point supported)	R/W	R/W	R/W	R/W			
	Fan speed (auto, manual 5 speed)	R/W	R/W	R/W	R/W	R/W	R/W	R/W			
	Air direction (swing mode or manual orientation)	R/W	R/W	R/W	R/W	R/W	R/W	R/W			
	Soft cooling	R/W									
	Save operation	R/W		R/W							
	Filter dirty indication	R/W	R/W	R/W	R/W	R/W	R/W				
	Room temperature	R	R	R		R	R				
	Permit/Prohibit of local operation	R/W	R/W	R/W	R/W	R/W	R/W				
	Temperature setting range limitation		R/W								
	Error Status	R	R	R	R	R	R	R			
	Error code	R	R	R	R	R					
	Error address	R		R	R						
Protocol	Model name		R								
	Serial number		R								
	Indoor unit capacity		R								
	Indoor unit type		R								
	Modbus RTU	Modbus RTU	EIB bus	EIB bus	LonTalk communication	Bacnet IP	Voltage signal				
Infrastructure	RS-485	RS-485	KNX TP1	KNX TP2	Twisted pair shield cable	LAN cable (higher than Category 5, UTP)					
Requirements (Locally supplied)	Modbus master device		KNX power unit	KNX power unit	Lonworks control system						
	Modbus graphic control		ETS4 or ETS5 tool	ETS4 or ETS5 tool	Lonworks Network Card for PC Control						
Toshiba communication protocol	TCC Link	TU2C Link	TCC Link	TCC Link	TCC Link	TU2C Link	TCC Link				

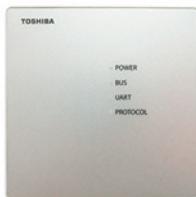
## BUSINESS | CONTROL SUMMARY

## Controls

Model number	Reference	TCC-Link	TU2C-Link	Description	Used with
BMS-CT1256U-E	7" Touch Screen Controller	x	x	Enables full control of up to 256 indoor units	
BMS-CT512E	12" Touch Screen Controller	x		Enables full control of up to 512 indoor units with electric billing, ML	
BMS-IFBN1280U-E	BacNet Interface	x	x	BACnet Interface for Estia R32, LC & VRF	
BMS-IFBN640TLE	BacNet Interface	x		BACnet Interface for LC & VRF	Enables integration with BACnet
BMS-IFDD03E	Digital I/O relay interface	x		Digital I/O relay interface	Touch screen controller, Compliant manager, Web based controller, Smart Manager
BMS-IFKX0UCW-E	1:1 KNX interface	x		Connect RAV/VRF system to a KNX Building Management System	Remote Control wiring
BMS-IFKX0UEW-E	1:1 KNX interface	x		Connect Estia R32 system to a KNX Building Management System	
BMS-IFLSV4E	TCS-Net Relay Interface	x		Relay for integration to TCS-Net	Bacnet gateway, Touch-screens & Web based controller
BMS-IFMB0UCW-E	1:1 Modbus interface	x		Connect LC & VRF systems to a Modbus Building Management System	Remote Control wiring
BMS-IFMB0UEW-E	1:1 Modbus interface	x		Connect Estia R32 system to a Modbus Building Management System	
BMS-IFWH5E	Energy monitoring relay interface	x		Energy monitoring relay interface	Touch screen controller, Compliant manager, Web based controller, Smart Manager
BMS-IWF0320E	Smart Device Control Interface	x		Enables full control of up to 32 indoor units by usin Toshiba AC app (Smart phone & Tablet)	
BMS-SM1281ETLE	Smart BMS Manager with data analyzer	x		Enables full control of up to 128 indoor units with Energy Monitoring and Advanced Control Options	network 1:1 model connection interface required for DI/SDI (Excluding high-wall type)
NRC-1HE	Remote ON/OFF adapter	x		Allows ON/OFF control	All Air-to-air heat exchangers
NRC-01HE	Wired Remote Controller	x		Air-to-air heat exchanger remote controller, including with DX coil and humidifiers models	Air-to-air heat exchangers and Air-to-air heat exchangers with DX coil
RBC-AMSU52E	Design remote Controller with schedule timer	x	x	Multi-Language LCD display, a built-in 7-Day timer, Energy Saving options and return back function, Dual set points, and Soft cooling. Languages : English, Italian, Polish, Greek, Russian, Turkish, Spanish, Portuguese, French, Dutch, German	
RBC-AWSU52E	Design remote Controller with schedule timer	x	x		Bluetooth connectivity for comfort control trough smartphone app
RBC-AMTU31-E	Wired Remote Controller	x	x	Main wired remote controller	
RBC-ASC11U-E	Wired Remote Controller	x	x	Main wired remote controller	
RBC-AX33UYP-E	Infra-red Remote Kit	x	x	Wireless remote controller	One-way cassettes (YHP series)
RBC-AXU31C-E	Infra-red Remote Kit	x	x	Wireless remote controller	All ceiling units and one-way cassettes (SH series)
RBC-AXU31-E	Infra-red Remote Kit	x	x	Wireless remote controller	All units
RBC-AXU31U-E	Wireless remote unit kit	x	x	Wireless remote controller	4 way cassette series 4 & RBC-U32PGP-E panel
RBC-AXU33UP-E	Wireless remote unit kit	x	x	Wireless remote controller	4 way cassette series 4 & RBC-U33P-E panel
TCB-IFCB-4E2	Remote location On/Off Control Box	x		Enables remote location On/Off control	
TCB-IFCB5-PE	Window Switch & Remote on/off	x		Ensure the indoor unit not operate when outside window is open or for Door Entry systems	
TCB-IFCB640TLE	Analog interface	x		Control & monitoring up to 64 IU on TCC-link	Combination with TCB-IFCG1TLE
TCB-IFCG1TLE	General purpose interface	x		Enables control of A/C by the DI/DO and AI/AO	Combination with TCB-IFCB640TLE
TCB-IFLN642TLE	LN interface	x		Allows control of 64 indoor units from a Lonworks based BMS	
TCB-IFMB1280U-E	Modbus interface box	x	x	Connect LC & VRF systems to a Modbus Building Management System	
TCB-KBCN32VEE	Connectors	x		For CN32	
TCB-KBCN60OPE	Connectors	x		For CN60	
TCB-KBCN61HAE	Connectors	x		For CN61	
TCB-KBCN70OAE	Connectors	x		For CN70	
TCB-KBCN73DEE	Connectors	x		For CN73	
TCB-KBCN80EXE	Connectors	x		For CN80	
TCB-PCDM4E	Application Control PC Board	x		Power Peak Cut Control	
TCB-PCIN4E	Application Control PC Board	x		Error/Individual compressor Operation Output Control Board	
TCB-PCMO4E	Application Control PC Board	x		External Master ON/OFF Control Board	
TCB-PCUC2E	Optional connection kit	x			
TCB-PSMT1E	Optional connector kit	x		Multi-Tenant Kit for VRF Systems	SMMS-e, SHRM-e and Mini-SMMS Indoor Units (refer to I/M for more details of connectable Indoor units)
TCB-PX100-PE	Enclosure for the Window Switch / Remote On/Off	x		For use when the Window Switch / Remote On/Off Accessory cannot fit within the AC unit, eg. High Walls	For use with TCB-IFCB5-PE
TCB-PX30MUE	E-Box Extension Enclosure	x		For 1:1 Model connection I/F and Window Switch / Remote On/Off PCB	4-Way Cassettes only & TCB-IFCB5-PE
TCB-PX40MUE	E-Box Extension Enclosure	x		For 1:1 Model connection I/F and Window Switch / Remote On/Off PCB	4-Way Compact Cassettes only & TCB-IFCB5-PE
TCB-SC640U-E	Centralized remote controller	x	x	Up to 64 indoor units	
TCB-SSRL011UP-E	RAC Interface			Connect RAS products on centralized remote controller and BMS	Not compatible with IMS compact cassette and IMS duct
TCB-TC41U-E	Remote temperature sensor	x	x	Remote temperature sensor for cassette & duct	

## RAC interface - specifications

&gt; NEW



Model name			TCB-SSRL011UP-E
Dimensions	WxLxH	mm	28x120x120
Max connection	Interface to RAS	1 by 1 connection	
	Interface to BMS	Max 256 interfaces	
Wiring	Interface to RAS	UART port	
	Interface to BMS	TU2C link Uh or TCC Link U3U4	
Net weight	kg	0.14	
Operation temperature	°C	0 to 50°C	
Power input		From indoor unit through UART port	
Power consumption	W	0.22	
Body material		ABS (UL94-BH compliant)	

- Control RAS systems using centralized remote controller.
- Advanced RAS features accessible using BMS-CT2560U-E Touch Screen or TCB-IFMB1280U-E Modbus gateway.

# INDOOR UNITS ACCESSORIES

**Indoor units accessories**

Indoor unit type	Parts name	Model name	Comply with VRF FCU	Notes	Remarks
4-way Air Discharge Smart cassette type	Standard panel	RBC-U41PG(W)-E	MMU-UP***1H-E	Required accessory	
	Fresh air and filter chamber	TCB-GFC1603UE		For fresh air inlet box	
	Auxiliary fresh air flange	TCB-FF101URE2		For easy fresh air intake by using the knockout hole of indoor unit. (dia.=100mm)	
	Spacer for height adjustment	TCB-SP1603UE		height 50 mm	
4-way Air Discharge cassette type	Air discharge direction kit	TCB-BC1603UE	MMU-UP***1H-E	Air direction change by cutting off air discharge port (3 pcs.)	
	Smart panel	RBC-U33P-E		Required accessory	
	Standard panel	RBC-U32PGP-E		Ionizer + dust filter + remote	
	Air purifier kit	TCB-EAPC1UHP-E		Before pre filter	
Compact 4-way cassette type	PM2.5 filters	TCB-PLFC1UPE-120	MMU-UP***1HP-E	After pre filter	
		TCB-PLFC2UPE-80			
2-way cassette type	Decoration panel	RBC-UM21PG(W)-E	MMU-UP***1MH-E	Required accessory	
	RBC-UW283PG(W)-E	MMU-UP0071WH-E to MMU-UP0151WH-E	MMU-UP0181WH-E to MMU-UP0301WH-E	For easy fresh air intake by using the knockout hole of indoor unit	
	RBC-UW803PG(W)-E	MMU-UP0181WH-E to MMU-UP0301WH-E			
	RBC-UW1403PG(W)-E	MMU-UP0361WH-E to MMU-UP0561WH-E			
1-way cassette type	Auxiliary fresh air flange	TCB-FF151US-E	MMU-UP***1WH-E	For easy fresh air intake by using the knockout hole of indoor unit	
	TCB-FC283UW-E	MMU-UP0071WH-E to MMU-UP0151WH-E			
	Filter chamber	TCB-FC803UW-E	MMU-UP0181WH-E to MMU-UP0301WH-E		
	TCB-FC1403UW-E	MMU-UP0361WH-E to MMU-UP0561WH-E			
Slim duct type	Super Long life filter	TCB-LF283UW-E	MMU-UP0071WH-E to MMU-UP0151WH-E	For use with filter chamber	Use with TCB-FC283UW-E
	TCB-LF803UW-E	MMU-UP0181WH-E to MMU-UP0301WH-E	Use with TCB-FC803UW-E		
	TCB-LF1403UW-E	MMU-UP0361WH-E to MMU-UP0561WH-E	Use with TCB-LF1403UW-E		
	Decoration panel	RBC-UY32P-E	MMU-UP0031YHP-E to MMU-UP0121YHP-E		
Concealed duct type	Air purifier kit	RBC-UY42P-E	MMU-UP0151YHP-E to MMU-UP0271YHP-E	Required accessory	
	TCB-EAPC1UYHP-E	MMU-UP-1YHP-E	Set of Plasma Air Purifier, Dust sensor, Air quality indicator and Wireless receiver	Horizontal, vertical motorized louver for slim duct	
Concealed Duct high static pressure type	3DW Diffusor	TCB-TDL0141SDY-E	MMD-UP0031SPHY-E to MMD-UP0121SPHY-E		Horizontal louver control using RBC-ASCU11-E, RBC-AMTU31-E or RBC-AMSU51-EN/ES
	TCB-TDL0181SDY-E	MMD-UP0151SPHY-E to MMD-UP0181SPHY-E			
	TCB-TDL0271SDY-E	MMD-UP0201SPHY-E to MMD-UP0271SPHY-E			
	Spigot shaped flange	TCB-SF56C6BE	MMD-UP0071BHP-E to MMD-UP0181BHP-E	For high efficiency filter or long life prefilter	
Air-to-air heat exchanger with DX coil	TCB-SF80C6BE	MMD-UP0241BHP-E to MMD-UP0301BHP-E			
	TCB-SF160C6BE	MMD-UP0361BHP-E to MMD-UP0561BHP-E			
	TCB-LK801D-E	MMD-UP0181HP-E to MMD-UP0271HP-E			
	TCB-LK1401D-E	MMD-UP0361HP-E to MMD-UP0561HP-E			
Fresh air intake type	Long life filter kit	TCB-LK2801DP-E	MMD-UP0721/0961HP-E	Dust collecting effect: 65% (NBS Colorimetric method)	Use with TCB-FC0481DF-E
	TCB-SF56C6BPE	MMD-UP0181HP-E to MMD-UP0271HP-E	Use with TCB-FC1281DF-E		
	TCB-SF80C6BPE	MMD-UP0361HP-E to MMD-UP0561HP-E	Use with TCB-FC0481DF-E		
	TCB-SF160C6BPE	MMD-UP0721HP-E to MMD-UP0961HP-E	Use with TCB-FC1281DF-E		
DX kit	Auxiliary fresh air flange	TCB-FF151US-E	MMU-UP***1HP-E	Lift up to 330 mm	
	Drain Pump kit	TCB-DP40DPE	MMU-UP***1HP-E		
High Wall	Ultra pure filter	818F0050	1 pack includes 2 filters	For FCU capacity 0.3-1.3HP	Suitable for high wall 1 serie with or without embedded PMV
	PMV Kit	RBM-PMV031U-E			
Ceiling-suspended type	RBM-PMV0901U-E	MMK-UP***1HP(L)-E	For FCU capacity 1.7-2.5HP	Lift up to 600 mm	Use TCB-KP13, 23CE
	Drain pump kit	TCB-DP31CE			
	Elbow Piping kit	TCB-KP14CPE			
Fresh air intake type	TCB-KP24CPE	MMC-UP0241HP-E to MMC-UP561HP-E	For high efficiency filter or long life prefilter	Lift up to 330 mm	
	High-efficiency filter 65	TCB-UFM0481D-E	MMD-UP0481HP-E		
	TCB-UFM1281D-E	MMD-UP0721HP-E to MMD-UP1281HP-E			
High-efficiency filter 90	TCB-UHF0481D-E	MMD-UP0481HP-E	Dust collecting effect: 90% (NBS Colorimetric method)	Lift up to 330 mm	
	TCB-UHF1281D-E	MMD-UP0721HP-E to MMD-UP1281HP-E			
	Long life prefilter	TCK-PF1281DF-E	MMD-UP0721HP-E to MMD-UP1281HP-E		
Air-to-air heat exchanger with DX coil	Filter chamber	TCB-FC0481DF-E	MMD-UP0481HP-E	Lift up to 330 mm	
	TCB-FC1281DF-E	MMD-UP0721HP-E to MMD-UP1281HP-E			
DX kit	Drain pump kit	TCB-DP40DFP-E	All models	Lift up to 330 mm	
	Optional sensor	TCB-IFDES1001P-E	TCB-IFDM*01UP-E		10 m lead wire

**Air filtration solutions**
**For standard 4-way cassette**
**TCB-EAPC1UHP-E**

Air Purifier kit with Ionizer, dust indicator, IR and adapted remote. Can be merged with PM2.5 filter.

**For High Wall**
**818F0050**

Ultra pure filter set.

**For 1-way cassette**
**TCB-EAPC1UYHP-E**

Air purifier kit with plasma, dust indicator, IR and adapted remote.



## REFRIGERANT ACCESSORIES

## Refrigerant accessories

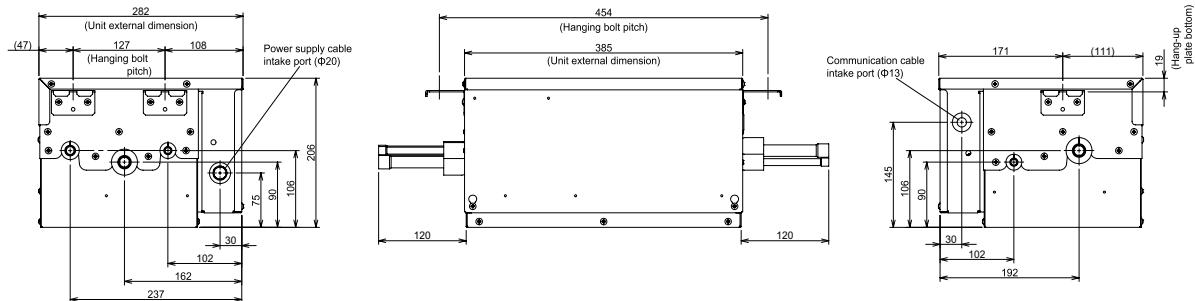
Model Name			Specification	Picture	Total capacity codes
Compatible MINI-SMMS, MINI SMMS-e & SMMS-u	Compatible SHRM-e	Compatible SHRM Advance			
RBM-BY55E	RBM-BY55FE		Branching joint		under 6.4hp
RBM-BY105E	RBM-BY105FE				from 6.4 to 14.2hp
RBM-BY205E	RBM-BY205FE				from 14.2 to 25.2hp
RBM-BY305E	RBM-BY305FE				from 25.2 to 61.2hp
RBM-BY405E					61.2hp or more
RBM-HY1043E	RBM-HY1043FE		Headers branching four-way		< 14.2 HP
RBM-HY2043E	RBM-HY2043FE				< 14.2 - 25.2 HP
RBM-HY1083E	RBM-HY1083FE		Headers branching eight-way		< 14.2 HP
RBM-HY2083E	RBM-HY2083FE				< 14.2 - 25.2 HP
RBM-BT14E	RBM-BT14FE		Joints for connection of outdoor units		< 26 <46 HP system capacity
RBM-BT24E	RBM-BT24FE				>46 HP system capacity
RBM-BT34E					< 4.0 HP indoor units
	RBM-Y1123FE				< 4.0 - 6.4 HP indoor units
	RBM-Y1803FE				< 6.4 - 10.0 HP indoor units
	RBM-Y2803FE				< 4.0 HP indoor units
	RBM-Y1124FE	RBM-Y1121FUP-E*			< 4.0 - 6.4 HP indoor units
	RBM-Y1804FE	RBM-Y1801FUP-E*			< 6.4 - 10.0 HP indoor units
	RBM-Y2804FE	RBM-Y2801FUP-E*			< 6.4 HP indoor units x 4 port
	RBM-Y1801F4PE	RBM-Y1801FU4PE*			< 6.4 HP indoor units x 6 port
	RBM-Y1801F6PE				< 6.4 HP indoor units x 8 port
		RBM-Y1801FU8PE*			< 6.4 HP indoor units x 12 port
		RBM-Y1801FU12PE*			
RBM-SV1121HUP-E**	RBM-SV1121HUPE***				< 4.0 HP indoor units
RBM-SV1801HUP-E**	RBM-SV1801HUPE***		Shut-off Valve unit		< 4.0 - 6.4 HP indoor units

\* Embedded shut off valve. \*\* For Mini-SMMS only. \*\*\* 8, 10 & 12HP

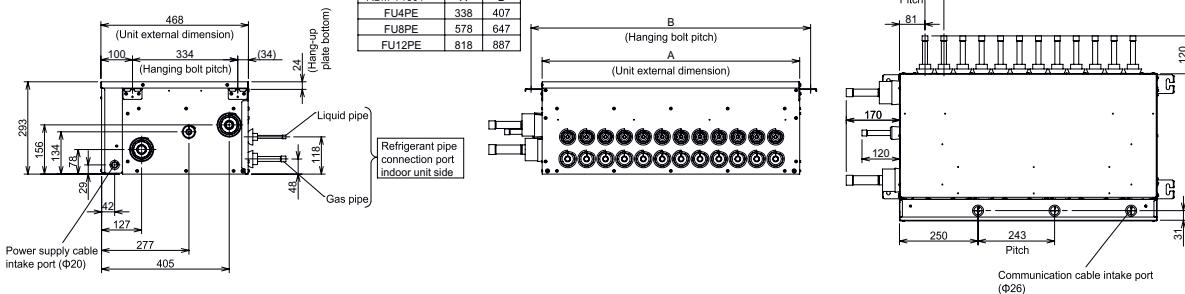
## Flow selector and shut off valve drawings

Unit: mm

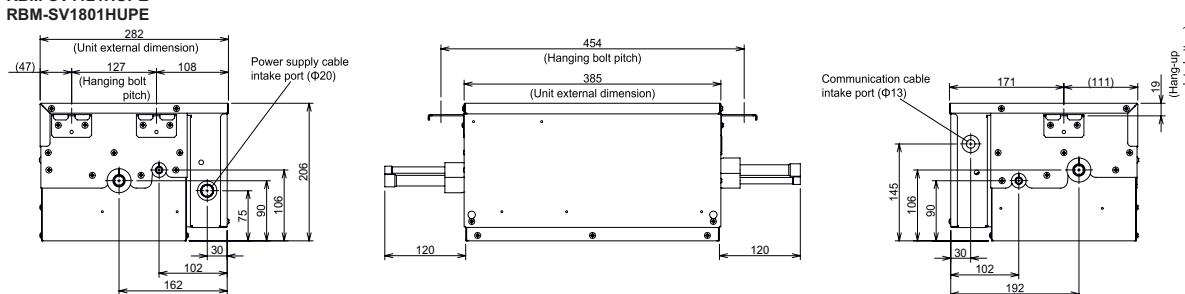
RBM-Y\_1FUP-E



RBM-Y1801FUPE



RBM-SV1121HUPE

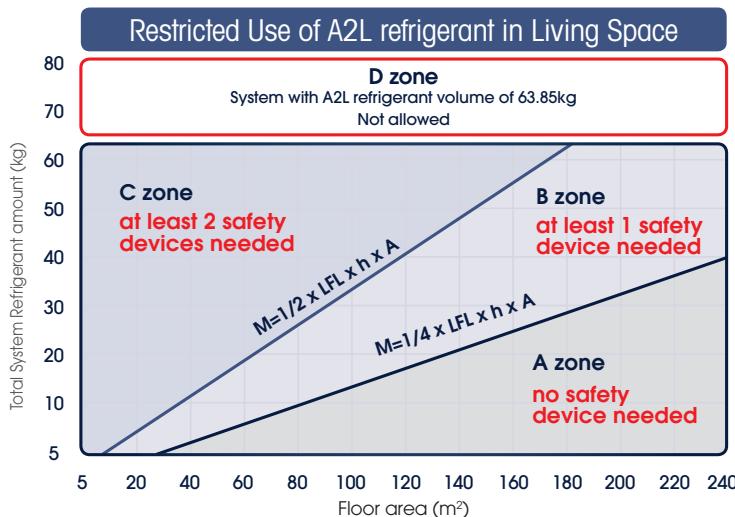


## R32 SAFETY REGULATION

### R32 CHALLENGING BY NATURE

Moving to R32 is a great opportunity for the environment. Nevertheless as classified A2L/mid flammable, precautions need to be taken. Toshiba Air Conditioning has thought of everything for your peace of mind.

Following IEC 60335-2-40 edition 6.0, depending upon the room surface and the total refrigerant amount, system needs to be equipped with safety devices.



R32 LFL = 0.307 kg/m³ - H = indoor unit position 2.2m - A= room surface in square metre  
Please refer to IM and Toshiba Selection Software for toxicity

Depend on zone in above graph, safety device is required with A2L refrigerant:

A zone (Indoor unit in a large room):  
Installation is possible w/o safety devices.

B zone (Indoor unit in a medium room):  
Require one safety devices.

C zone (Indoor unit in a small room):  
Require two safety devices.

D zone (Installation not allowed):  
Refrigerant amount with 63.85kg or less.

### CASE STUDY

#### Scenario

16HP SHRM Advance has 6 IDUs as listed in the table below.

- Each unit is determined to be installed into separate room.
- This building does not have underground floor.
- Total refrigerant amount is 20kg.



#### Process (to be applied to each indoor units)

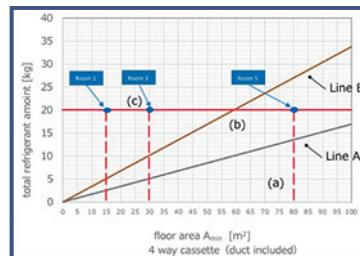
Step 1: Identify the indoor unit type and refer to the related graph

Step 2: Position the system refrigerant amount and the room surface on the graph

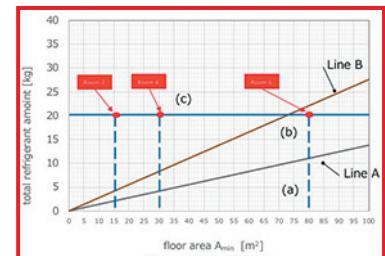
Step 3: Look at the zone a, b, c or d

Step 4: Select the proper safety solution

Duct and cassette graph



Ceiling and high wall graph



#### System summary

Room number	Floor area	Indoor unit type	Indoor unit size	Zone	Additional safety measures
1	15 m²	4-way cassette	1HP	C	2 safety measures
2	15 m²	High wall	1HP	C	2 safety measures
3	30 m²	4-way cassette	2HP	C	2 safety measures
4	30 m²	Ceiling	2HP	C	2 safety measures
5	80 m²	4-way cassette	5HP	b	1 safety measure
6	80 m²	Ceiling	5HP	b	1 safety measure

Rely on Toshiba selection software to comply with IEC 60335-2-40 ed6 regulation.



## TOSHIBA SOLUTIONS MANAGE SAFETY REQUIREMENTS



**TCB-LD1UPE**  
R32 leak detector  
(audible and visual alarm)



**RBM-Y\_1FUxPE**  
Shut-off valve included into  
Flow selector unit for 3-pipe  
SHRM Advance\* & MiNi-SMMS  
operations



**RBM-SV\_1HUPE**  
Shut-off valve for 2 pipe  
SHRM Advance\* & MiNi-SMMS  
operations



**TCB-BT1UPE**  
Battery kit to secure  
Shut-off valve operations  
in case of power failure  
(required by IEC60335-2-40 standard)

Toshiba safety concept certified by 3<sup>rd</sup> party certification institution following IEC60335-2-40 (Ed.6) regulation. \* 8, 10 & 12HP only.

## > MEET BUILDINGS CONSTRAINTS

Select the appropriate answer (applicable for SHRM Advance and MiNi-SMMS)

### For buildings with large spaces

- ✓ Only one flow selector or shut off valve unit is needed



In case of leak detection:

- Audible and visible alarm on concerned leak detector
- Refrigerant Pump down
- Fault code on remotes

SYSTEM IS TURNED OFF IN CASE OF LEAK DETECTION

### For buildings with many individual rooms

- ✓ Multiple flow selector units or shut off valves are needed



In case of leak detection:

- Audible and visible alarm on concerned leak detector
- Fault code on remotes
- Individual shut-off valve

SYSTEM CONTINUES TO RUN,  
ONLY CONCERNED AREA IS TURNED OFF

### Other alternative

- ✓ For 2-pipe operation without shut-off valves



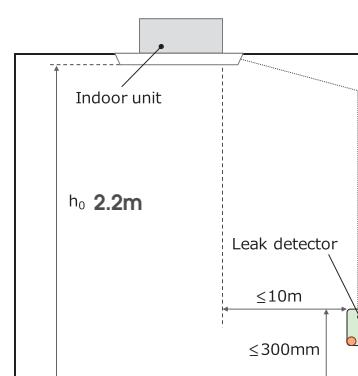
In case of leak detection:

- Audible and visible alarm on concerned leak detector
- System operation stop or fan only
- External output enabled (fan,...)

SYSTEM IS TURNED OFF IN CASE OF LEAK DETECTION

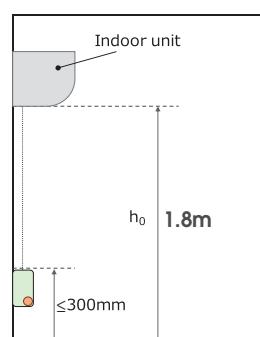
### Leak detector installation rules

#### Duct and cassette

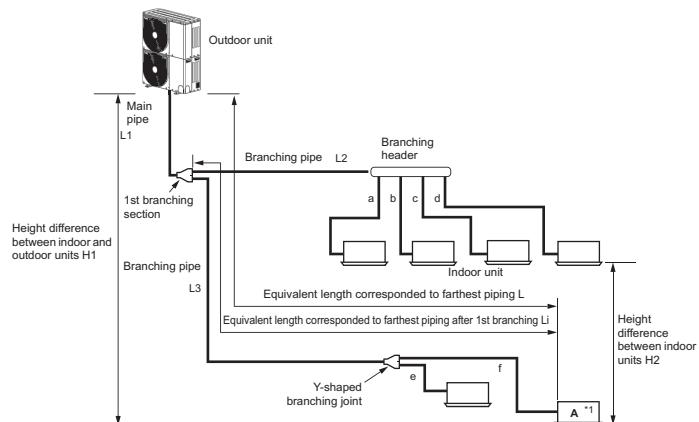


For more explanation, please refer to SHRM Advance & Mini SMMS installation manuals.

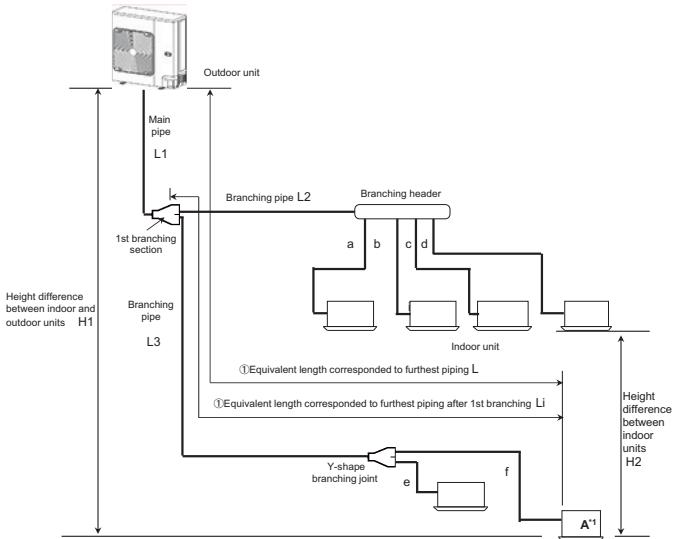
#### High wall and ceiling



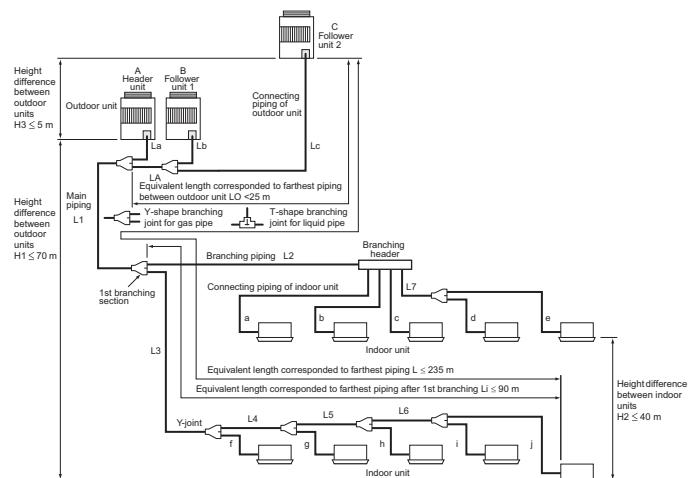
## MiNi SMMS-e / MCY-MHP piping



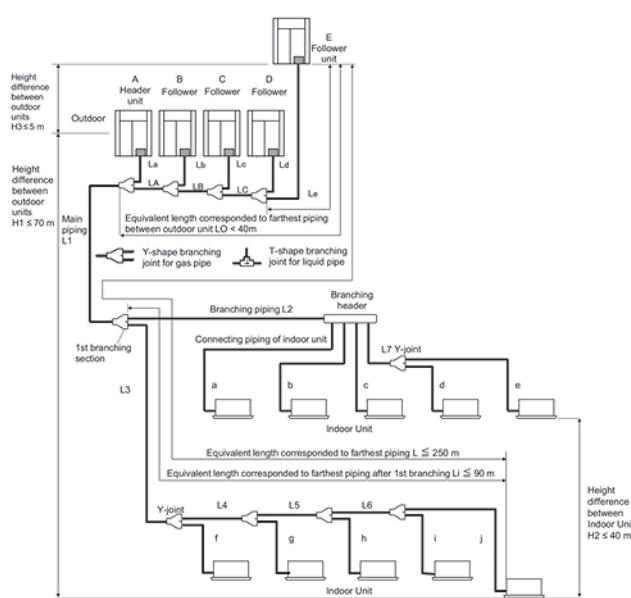
## MiNi-SMMS / MCY-MUG piping



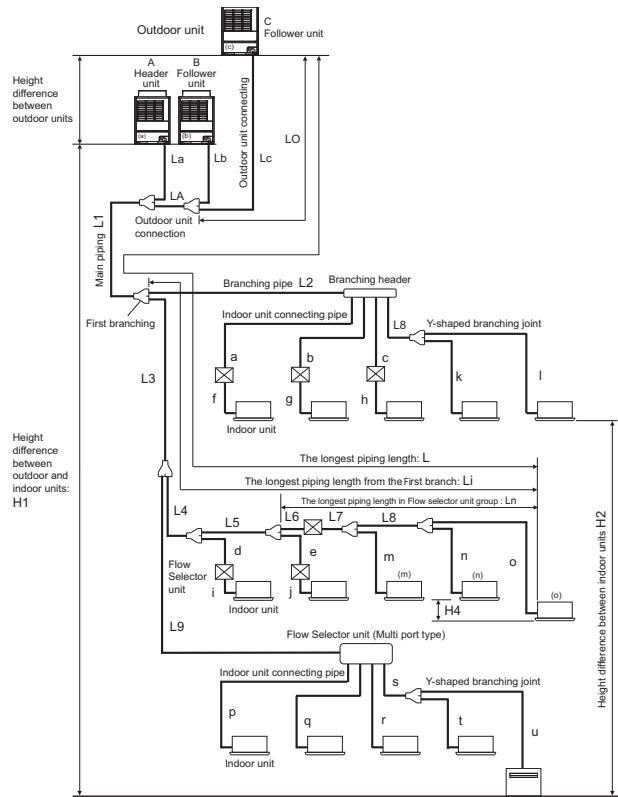
## SMMS-e stand alone / MMY-SAP piping



## SMMS-u / MMY-MAP-HT

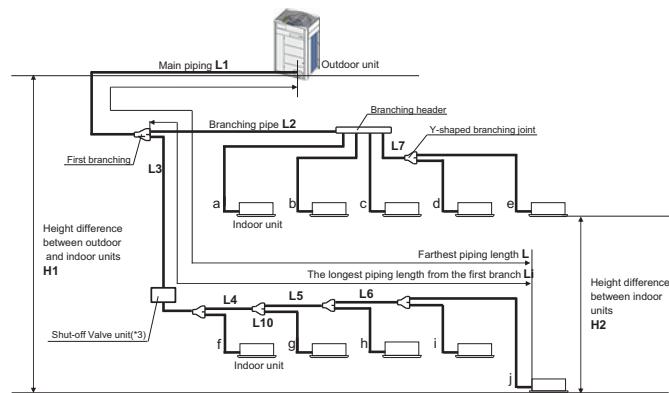


## SHRM-e / MMY-MAP\_FT

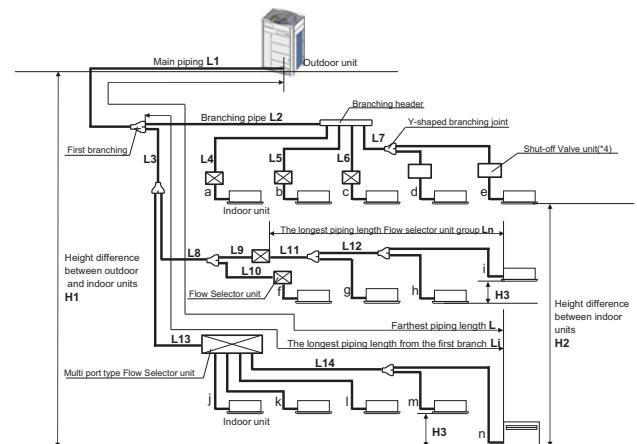


## SHRM Advance / MMY-SUG

2pipe operations



3pipe operations



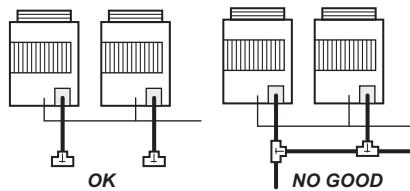


## &gt; SYSTEM RESTRICTION

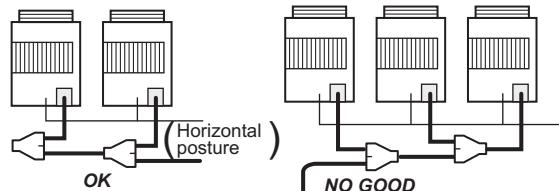
	SMMS-u	SMMS-e stand alone	SHRM-e	SHRM Advance
Outdoor unit combination	Up to 5 units	1 unit	Up to 3 units	1 unit
Total capacity of outdoor unit(s)	Up to 120HP	Up to 10HP	Up to 54HP	Up to 24HP
Indoor unit connection	Up to 128 units	Up to 22 units	Up to 64 units (54 with central control)	Up to 69 units
Total capacity of indoor units	H2 ≤ 15m H2 > 15m	200% 105%	135% 105%	135%* 200% 105%

\* 20HP &amp; 40HP : 125% - 38HP : 130%

T-shape branching joint for liquid pipe



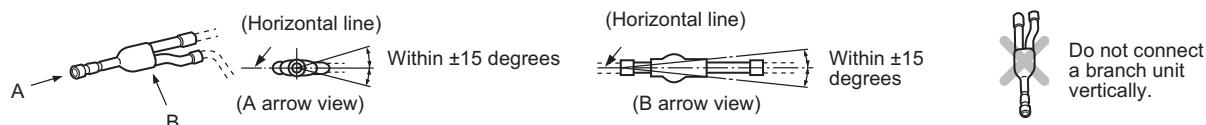
Y-shape branching joint for gas pipe



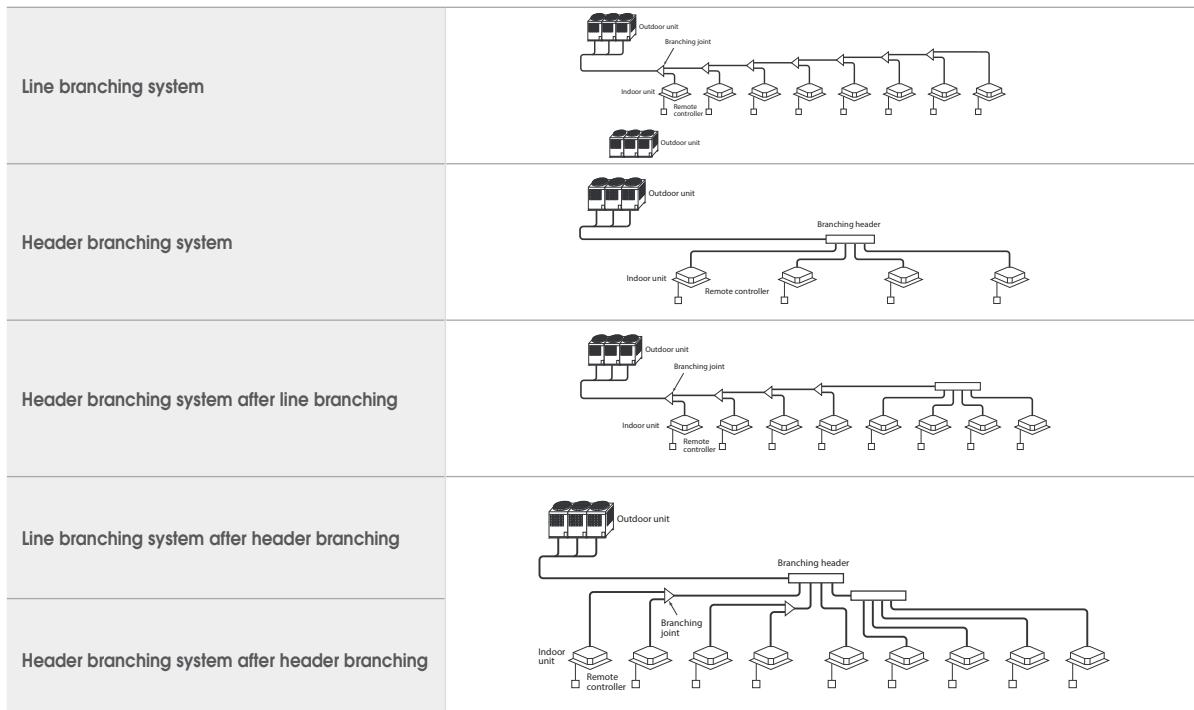
## &gt; CAUTION FOR INSTALLATION

Be careful of the connecting arrangement of the header unit and follower units. Set the outdoor units in order of capacity from the one with the largest capacity.

## At a level position

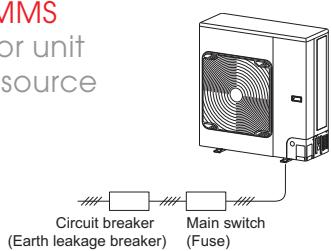
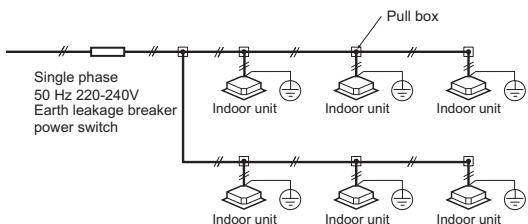


## &gt; FREE BRANCHING SYSTEM

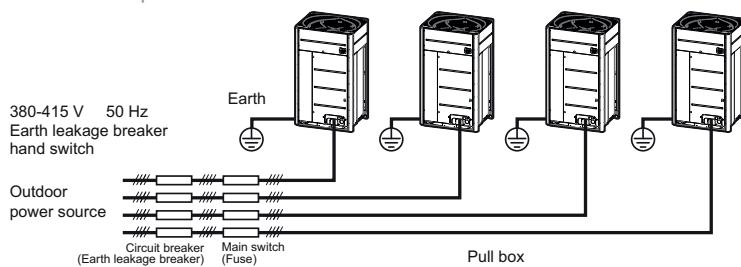
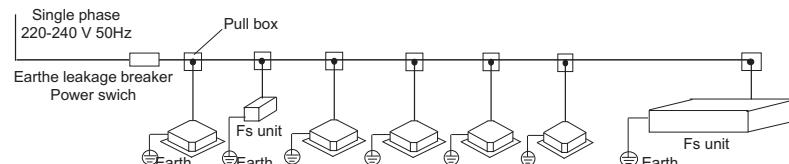


**Electrical wiring****MINI-SMMS**

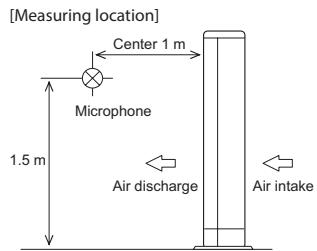
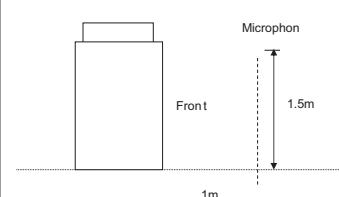
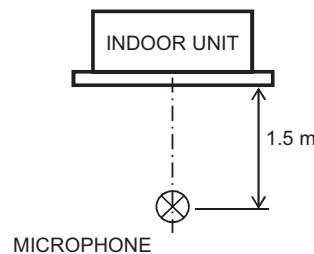
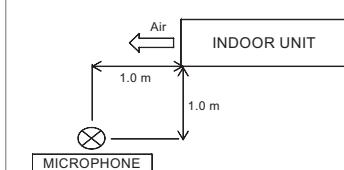
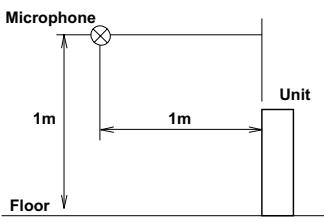
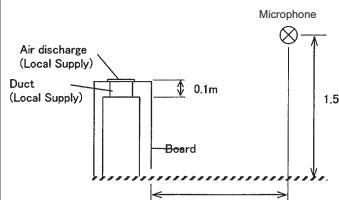
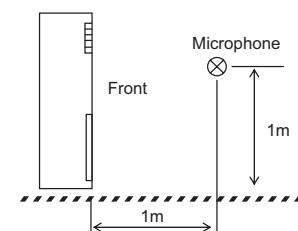
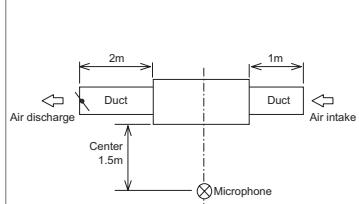
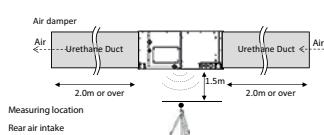
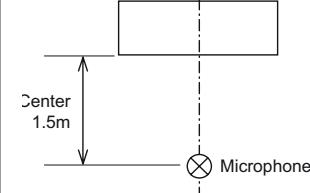
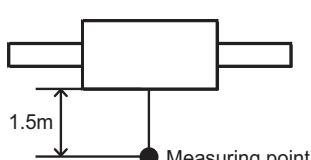
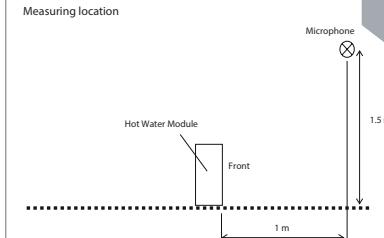
Outdoor unit power source

**Indoor unit power source****SMMS-u/SMMS-e/SHRM-e/SHRM Advance**

Outdoor power source

**Indoor power source**

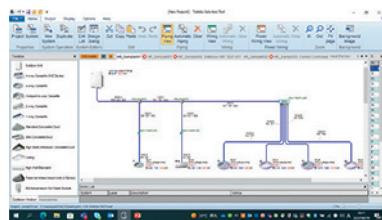
3 series flow selector units compatible with SRHM-e are powered by indoor units.

**Sound pressure level measurement****MINI-SMMS, Mini SMMS-e & Sideblow****SMMS-u & SHRM-e****COMPACT 4-WAY CASSETTE & 4-WAY CASSETTE & 2-WAY CASSETTE & 1-WAY CASSETTE****HIGH-WALL & CEILING****CONSOLE & BIFLOW CONSOLE****CONCEALED CHASSIS****FLOOR STANDING****SLIM DUCT & STANDARD DUCT & HIGH STATIC DUCT****HIGH STATIC DUCT SIZES 72 & 96****FRESH AIR****A2A HEAT EXCHANGER****HOT WATER MODULE (MID & HIGH TEMPERATURE)**

## &gt; SELECTION TOOL



Software main screen

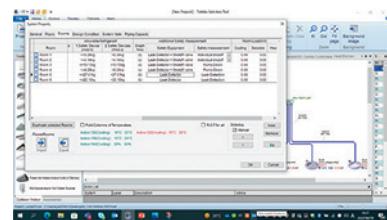


Project fully customizable

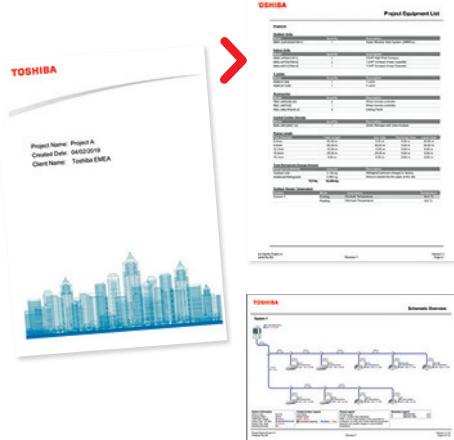


Toshiba Selection software has been fully designed with a user-friendly interface allowing novice and expert users alike to create simple, yet detailed VRF system schematics. It is highly versatile to tailor the level of details to customers' expectations. In line with SHRM Advance and MiNi SMMS R32 safety regulation compliance, the software identifies the rooms to be equipped with safety devices. Final detailed reports can then be produced and sent to customers in a PDF format that summarizes all the information needed to ensure proper installation, good system operation and customer satisfaction.

Safety devices guidance

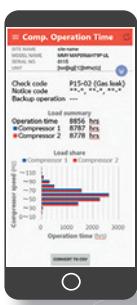


Complete report

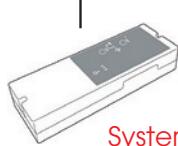


## &gt; SERVICE TOOL

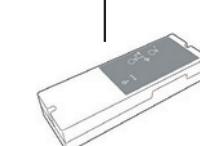
Save time during commissioning and maintenance. Choose between the "Wave Tool Advance" using Smartphone NFC connection or the link adaptor connected to the outdoor or indoor unit.



Wireless connection  
using smartphone\*  
NFC technology  
to collect system data



System operation self  
record using link adaptor



Get access to system  
data indoor using link  
adaptor



Direct USB connection  
to get access to  
system data

\*Please contact Toshiba for Android® phone compatibility list.

## › INSTALLATION AND USE OF REFRIGERANTS NOT SPECIFIED BY TOSHIBA CARRIER CORPORATION

Toshiba Air Conditioning products are designed and manufactured on the assumption that each product is used with the specific refrigerant specified for that product.

The use of incorrect refrigerant may cause mechanical defects, malfunctions or failures which, in some cases, could result in a serious safety issue. For this reason Toshiba Carrier Corporation requires that only the specified refrigerant for a product should be used.

The type of refrigerant specified for a product is stated in the accompanying owners manual for a product, or on the label attached to the product itself.

Toshiba Carrier Corporation shall not assume any liability for failures, malfunctions or safety issues on any product if incorrect refrigerant is used in that product.

## › TESTING CONDITIONS BASED ON EUROVENT REQUIREMENTS

Cooling mode

Indoor air temperature: 27°CDB / 19°CWB

Outdoor temperature: 35°CDB / 24°CWB

Heating mode

Indoor air temperature: 20°CDB

Outdoor temperature: 7°CDB / 6°CWB

Certified data accessible on Eurovent website

Seasonal data accessible on Toshiba Ecodesign website

# TOSHIBA



Through our commitment to world-class **efficiency**, versatile **scalability** and leading **quality**, Toshiba Air Conditioning advances leading-edge technologies to find the most forward-thinking solutions possible for your world.



TOSHIBA Air Conditioning participates in the ECP program for Comfort Air Conditioner (AC). Check ongoing validity of certificate: [www.eurovent-certification.com](http://www.eurovent-certification.com)